DOCUMENT RESUME

ED 330 040 EA 022 734

AUTHOR Zykowski, Jane L.; And Others
TITLE A Review of Year-Round Education Research.
INSTITUTION California Educational Research Cooperative, Riverside.
PUB DATE Feb 91
NOTE 82p.
PUB TYPE Reports - Evaluative/Feasibility (142) -- Information Analyses (070)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS Educational Planning; Elementary Secondary Education; *Extended School Year; Operations Research; Organizational Change; *Policy Formation; *Program Implementation; School Schedules; *Year Round Schools
IDENTIFIERS *California

ABSTRACT

A comprehensive review of research and professional literature on the development of year-round education in the United States is presented in this synthesis, with a focus on policy implementation issues in California. The first part presents an overview of year-round schooling and descriptions of California legislative mandates. Next, a discussion of organizational feasibility examines achievement, educational and social-political issues, and fiscal impact. Planning for the implementation of year-round schools and policy questions are discussed in the final sections. Conclusions are that: (1) the sociopolitical impact on a district is related to its understanding of year-round education as comprehensive organizational change; (2) implementation costs must be based on four main components--capital, operational and transitional costs, and revenue incentives; and (3) studies have failed to show significant differences in student achievement between year-round and traditional programs. These conclusions underscore the need for well-designed data-based research on the organizational impact of year-round education. Eight figures and two tables, an appendix of calendar options, and an extensive bibliography are included. (LMI)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED330040

A REVIEW OF YEAR-ROUND EDUCATION RESEARCH

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
This document has been reproduced as received from the person or organization originating it.
Minor changes have been made to improve reproduction quality.
Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
J Zykowski
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Jane L. Zykowski
Associate Specialist
Project Investigator

Douglas E. Mitchell
Professor of Education
CERC Director

David Hough
CERC Research Fellow

Sandra E. Gavin
CERC Research Fellow

California Educational Research Cooperative
School of Education
University of California, Riverside

February, 1991

EA 022 734

BEST COPY AVAILABLE

Table Of Contents

FOREWORD i

EXECUTIVE SUMMARY ii

Introduction: A Need for Year-Round Education 1

Definition of Year-Round Education 6

Origins Of Year-Round Schooling 9
- Heritage 9
- Evolution 10
- Modern Era 12

Legislative Mandates 17

Organizational Feasibility 20
- Fiscal Impact 23
  - Cost-Ingredients 24
- Achievement Issues 28
- Educational Issues 31
  - Handicapped Students 31
  - Dropouts 32
  - Absenteeism 32
  - Extracurricular Activities: 33
- Social-Political Issues 34
  - Administrators 36
  - Parents 37
  - Students 39
  - Community 39

Planning for the Implementation of Year-Round 41

Policy Questions 46

Summary 48

Bibliography 51

Appendix A 71

List of Figures and Tables

Figure 1: YRE Program Locations in the 50 States 3

Figure 2: Fastest Growth Counties compared to YRE Implementation 4

Figure 3: Population and YRE Growth in California 20-Year Span from 1968 to 1988 5

Figure 4: Historical Development of YRE 1645-1990 10

Figure 5: Net Increase in Number of School Districts Initiating YRE 15

Figure 6: Legislation Affecting the Growth of YRE in California 19

Figure 7: CERC Cost Model 28

Figure 8: YRE Policy Implementation Matrix 48

Table 1: Major YRE Evaluation Studies 21

Table 2: Summary of Cost Findings Year-Round vs. Traditional School Calendars 26

FOREWORD

A Review of Year-Round Education Research is a comprehensive review of research and professional literature covering the rationale and development of year-round education in the United States. The review synthesizes the literature, examines critical issues addressed by proponents and opponents, and analyzes the fiscal, educational and social/political feasibility of year-round education. The primary purpose is to frame key policy issues surrounding the implementation of year-round programs.

This review is the first step in the conduct of a major research project designed to compare cost, educational and socio-political effects of year-round programs against traditional nine-month programs. Primary attention is given to the state of California, the clear leader in year-round education implementation.

This work is sponsored by the California Educational Research Cooperative (CERC), a consortium of the Riverside and San Bernardino County Offices of Education, local school districts, and the University of California, Riverside, School of Education.

Special thanks is extended to Dr. David Andrews, Dr. Charles Ballinger, Dr. Don Glines, Mr. Anthony Lardieri, Mr. David Haney, Dr. Irving G. Hendrick, Dr. Linda Wisher and the CERC staff for their insights and patience.

EXECUTIVE SUMMARY

Public education in California has entered a crisis-oriented era: it is faced with an increase in student population of diverse abilities and needs, a lack of classrooms, and limited resources to combat current problems. Policy makers have come to the realization that the nation's schools are no longer adequate for the needs of today and tomorrow. One of the major responses to these problems has been the consideration of a shift in school calendars from the traditional nine month calendar to the twelve month year-round calendar. The flexibility in school scheduling facilitated by year-round education programs has the potential of becoming an innovative option for restructuring curriculum, reducing overcrowding and enhancement of educational delivery systems. This review provides the educational policy maker conversant knowledge associated with the year-round education movement.

Year-round learning is not a new idea--its origins predate World War I. However, the term year-round education, as it has been applied to continuous instructional program schedules during the past two decades has undergone numerous creative variations described in the literature as "new innovations". Ninety percent of all schools on year-round calendars are located in the western United States, and the heaviest concentration of year-round is in California.

School districts have experimented with modifications in the traditional nine-month calendar for three reasons: (1) to implement creative curricular programs, (2)

to house more students, and (3) to save money. Of these reasons, the latter two are most common. Year-round education involves organizational change in school calendar, educational programs and operational services. Much of the research reported in this review has been gleaned from feasibility studies, many of them conducted by individual school districts that have either adopted a year-round program, rejected the idea, or implemented it only to drop the year-round calendar and return to the more familiar, traditional nine-month calendar. Although various issues arise from these studies, three general categories emerge: (1) fiscal considerations, (2) educational/academic impact, and (3) social and political concerns of the community.

Proponents and opponents alike often identify similar issues but draw opposite conclusions from the limited data available. This is the conundrum of year-round education. Some districts report more satisfied clientele, happier teachers who earn more money, and improved student achievement scores. Others report dissatisfied clientele, burned-out teachers who have to redesign curriculum and instruction, disgruntled parents, and no measurable gains in achievement. For example, in 1954 the Los Angeles Unified School District dismissed the idea of operating schools year-round, calling the program too costly (Nation's Schools, 1955). Today, the Los Angeles Unified School District enrolls more California students in year-round programs than all the other forty-nine states combined and in 1986 reported an "avoided cost" savings of more than $400 million in the construction costs for facilities needed if year-round schools had not been carried out (Gottschalk, 1986). While several districts have cited

social and fiscal reasons for abandoning a year-round program, to date no school has dropped its year-round program for academic reasons.

Research is sketchy. Most data have been generated from "in-house" surveys reported in case studies with varying designs and methodological approaches. Little cross-sectional information is available, and too few cases exist for proper application of meta-analysis techniques. District generated feasibility studies, and even the more formally designed research-based case studies, provide some insight into the year-round education puzzle. Critical examination of these studies have lead to the following implications:

- The degree of socio-political impact a district experiences is related to its understanding of year-round education as comprehensive organizational change. Planning for such change involves early education of constituents, identification of district needs, and the establishment of priorities through discussion with the school board, superintendent, administrators, teachers, parents, students and community members.

- Costs of setting up Year-Round School programs must be based on four primary components: Capital Costs (facilities), Operational Costs (staff and materials), Transition Costs (staff development, communications, etc.) and Revenue Incentives (fiscal reimbursements from the state in categorical areas such as air conditioning, etc.).

- There are no definitive studies showing that student achievement in year-round programs differs from that of students in traditional school programs.

This review underscores the need for well-designed data based research on the organizational impact of year-round education. To address this need a normative model including costs, educational and socio-political effects of year-round education programs in California is being developed and piloted by the California Educational

Research Cooperative. Data collected using this model will be analyzed and reported subsequently. Details of this model are covered in *Year-Round Education Feasibility Guidelines* (Mathews, et.al, 1989).

Introduction: A Need for Year-Round Education

Overcrowding of school facilities, scarcity of new revenues, and legislative mandates have reawakened California school policy makers' interest in year-round education (YRE). The student population in the state of California has been increasing at a steady rate over the last decade. According to figures provided by California's State Superintendent of Public Instruction, Bill Honig;

(1) Public school enrollment is currently at 4.6 million and will exceed 5 million by September, 1992, and 6 million by 1998;

(2) Increased school enrollments are not going to be evenly dispersed throughout the state;

(3) Areas already experiencing rapid population growth will continue to experience rapid increases in the number of children entering schools;

(4) The greatest percent increase in K-12 enrollments over the next decade will be in Riverside County (88.3%); the second greatest increase will be in San Bernardino County (78.4%);

(5) Riverside County needs to build 123 new schools; San Bernardino County needs 141 (Honig, 1989).[1]

In his testimony to the Senate Budget and Fiscal Review Committee on December 10, 1990 Honig stated that "Adjusting for population, state revenues have grown 21.6 percent while state fund allocation for per pupil have grown only 18 percent." He also presented data to show that the Commission on State Finance estimates that education's minimum guarantee funding for 1991-92 will be reduced by

---

[1] The figures presented here are taken from a news release distributed by the California State Department of Education, Office of the Superintendent of Public Instruction (September 5, 1989).

$411 million in state funds as established by Proposition 111 (CLUE, 1990). State revenues for K-12 schools during 1990-91 are $ 25,293,000 of which only 1.6 billion has been proposed in statewide bond measures for new school construction. According to figures provided by the California Department of Education, School Facilities Planning Division (1990), California school districts are in need of 2.31 billion dollars for new school construction in 1991. Districts are faced with a dilemma. Most constituencies are unwilling to submit to a tax for new school construction as evidenced in the 95% rate of general obligation bonds (GOB) failure in the state, and the Office of Local Assistance (OLA) is clogged with requests for state funding, but it does not have the resources to meet all requests (See Ortiz, 1990). As a direct result of the overcrowding problem being experienced by California public schools and the scarcity of new revenue to help in the construction of new schools, according to Bill Honig, by 1993, it is predicted that there will be a significant increase in the number of schools switching from a traditional school calendar (TSC) to a year-round calendar (YRC). Legislative mandates continue to require year-round schools while simultaneously eliminating incentive revenues to districts interested in year-round operations.

Except for a slight decline after the passage of Proposition 13, California has led the nation in the number of schools operating year-round programs. California's enrollment of 426,422 students in year-round programs compared to the national total of 522,525 represents 82 percent of all students enrolled in year-round education. Of the 628 public and private schools nationally on year-round calendars, 489 are located in California. Eight of the ten largest year-round districts (based on pupil enrollment)

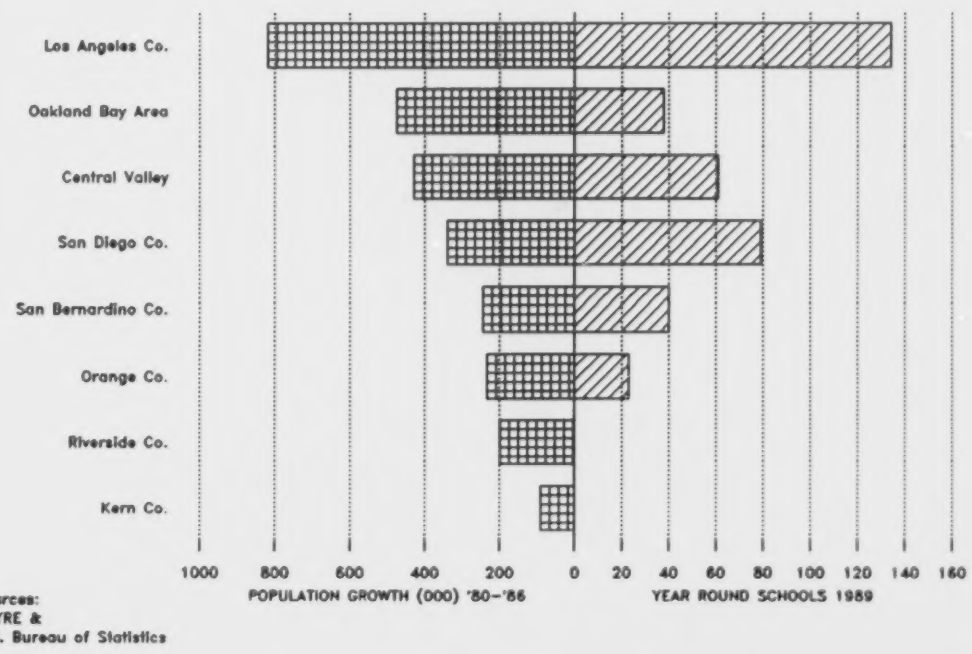
are located in California. Los Angeles Unified School District, alone, accounts for 27% of the total number of students in year-round programs nationally. Seventy-nine of California's 1,010 districts are currently offering some type of continuous school program. Within these year-round districts, 414 schools are elementary, 32 are middle or junior high, 15 are comprehensive high schools, 12 are continuation high schools, and 16 others are alternative schools (National Directory of Year Round Programs, 1989-90). Figure 1 graphically represents the dispersion of all year-round programs in the United States. Notice that more than three-fourths of all YRE schools are located in California.

Figure 1
YRE Program Locations in the 50 States
1990

Figure 2 compares population and Year-Round School (YRS) growth rates in eight California Counties. Los Angeles, San Diego, San Bernardino, and Orange counties

are the fastest growing areas with the highest number of year-round education programs. At the end of 1989, the two counties experiencing the most growth with no year-round schools were Riverside and Kern. However, as of July 1990, several districts in Riverside and Kern counties faced with rapid student population growth began to study the organizational feasibility of year-round education and implemented a number of year-round education programs.

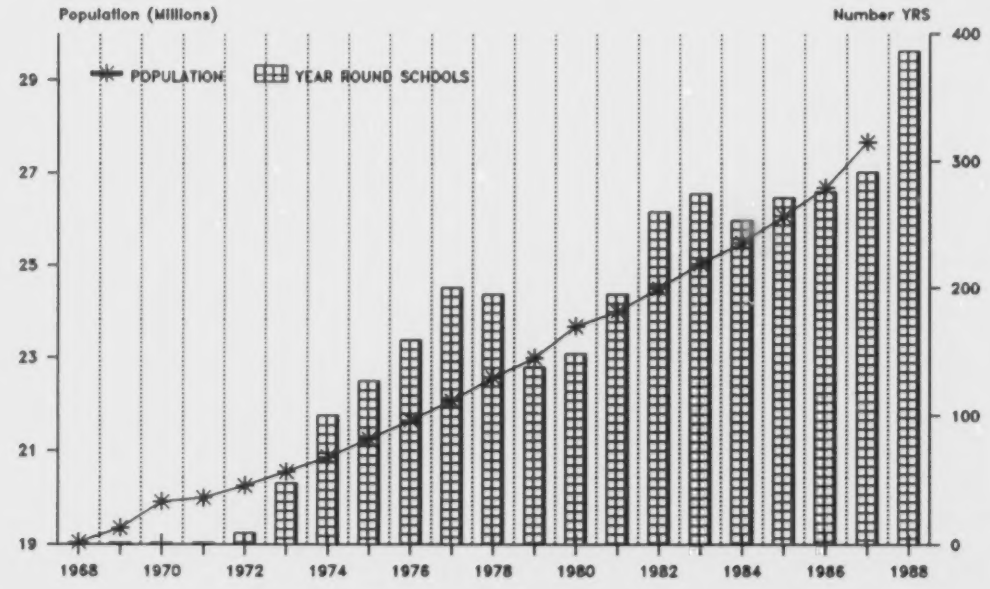
Figure 2
Fastest Growth Counties compared to YRE Implementation



Projections for the 1990s suggests that the amount of year-round education

programs in California will dramatically increase (Glines, 1988a, p. 13). As shown in Figure 3, statistical information collected from the United States Bureau of Statistics and the National Association of Year-Round Education confirms rapid growth in both population and YRE in California.

Figure 3
Population and YRE Growth in California
20-Year Span from 1968 to 1988



Sources:
NAYRE &
U.S. Bureau of Statistics

Definition of Year-Round Education

The idea of operating school all year or an increased portion of the year means different things to different people. Anyone considering the feasibility of switching from a TSC to a YRC "should have a clear understanding of what he is talking about before he takes a position for or against any of the all-year school plans" (McLain, 1973, p. 8).

The traditional school calendar is organized on a nine month basis, running from the beginning of September to mid-June. The course of study for each subject is developed and carried out over the course of an entire academic year (9 month basis divided into thirds). A student's progress is evaluated at the end of each academic year. For those students in need of remediation, a separate summer session, ranging from 6 to 8 weeks, is usually offered at the elementary and secondary school levels.

There are two distinct reasons why a school district would decide to switch from a traditional school calendar to a year-round school calendar: (1) program enrichment; (2) accommodation of students due to an increase in enrollment. The "Four Quarter Plans" were the earliest and most commonly cited attempts at rescheduling the school year in order to enrich and accelerate educational programs. These plans are generally referred to as single-track "continuous year" or "extended year" programs. Continuous year programs, such as the Four Quarter Plans, extend the school year from 180 to 210 days. All teachers and students have the same academic schedule, usually 45 days of instruction with short vacations (15 days) dispersed throughout the 12 months of school operations. Districts such as Cherry

Creek, Colorado, believe that learning could be more effective if it is not interrupted by a lengthy, two-and-a-half month summer break. In effect, these plans reduced the number of children in the schools by setting the stage for early graduation (Thomas, 1973).

The second predominate reason why schools restructure their school year and implement a YRS is to accommodate an increase in student enrollment. Instead of implementing a single-track continuous year program districts switch to a multi-track schedule. Under this type of plan, schools operate four modified quarter sessions during a calendar year. The significant difference between the single-track and multi-track option is that multi-track year-round school plans divide students and teachers into different groups or attendance cohorts (tracks) of approximately the same size while single-track programs move the entire school population through the same instructional day calendar. Depending on format (i.e., three, four and five track systems), each quarter is generally between forty-five to ninety days in length.[2] Each cohort of students and teachers is assigned to a different academic and vacation schedule. The multi-track plan allows one cohort of students and teachers to be on vacation while the others are in attendance.

---

[2] The most common multi-track formats are the three, four and five track systems. Students and teachers in a three-track system typically attend school for 90 consecutive weekdays followed by a twenty-to-thirty day vacation. Four-track programs provide 45 or 60 consecutive weekdays of instruction followed by a 15 or 20 day vacation period. Typical five-track plans provide students and teachers greater flexibility by permitting common three week vacation periods and choices of instructional blocks. A description of the various modifications of the four quarter multi-track year-round education plans is described in greater detail in Appendix A.

Multi-track programs are usually set up to relieve overcrowding. These programs allow schools to house more students than would be possible on the traditional school year calendar. For example, a school built to house 600 students could house 900 students by placing the students and teachers into four cohort attendance groups (tracks) and implementing a 45-15 schedule (i.e., 45 days of instruction and 15 days of vacation). At any one time during the continuous twelve month school year three cohort attendance groups (tracks) are in attendance (totalling 600 students) while one track (300 students) is on vacation (i.e., a school that normally houses 600 students can accommodate 900).

Year-round education plans are as sophisticated as they are diverse. Any one paper that attempts to include a full range of plans would be too lengthy and convoluted. Therefore, the discussion in this review will be limited to those year-round education scenarios that include the following elements:

(1) staggered cohorts of students on a continuous twelve month attendance calendar

(2) accommodation of more students than seats, rather than for curricular enrichment, and

(3) proposes to be a permanent not temporary restructuring of the school year from a nine to a twelve month basis.

Origins Of Year-Round Schooling

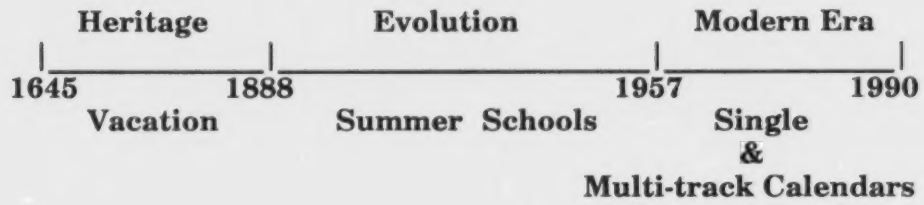
Heritage

Year-Round Education is not a new phenomena. The existence of continuous education programs date as far back as 1645. It was then in the town of Dorchester, Massachusetts that the roots of year-round education began to take hold. According to Cammorata (1961) and Richmond (1977a), the town of Dorchester

> "required the schoolmaster to begin teaching at seven o'clock in the morning and to dismiss the students at five o'clock in the afternoon for the first seven months of school. During the last five months . . . (from the eighth month to the end of the twelfth month), the schoolmaster was to begin teaching at eight o'clock in the mornings and to end at four o'clock in the afternoon" (p. 44).

European immigrants in the 1800's supported the twelve-month school program as a way to help assimilate their children into American culture. They believed learning English would proceed quickly if their children were taught through the summer, not taking time off for vacation (Hermansen & Gove, 1971). Hopkins Grammar School (Boston, Massachusetts) in its rules of 1684 required twelve-month education. Approximately two centuries later the First Church of Boston established year-round education officially in 1866 (Lane, 1932; Richmond, 1977a). Known as vacation schools, they operated during the traditional months of summer vacation and were staffed by non-professional educators who offered religious, recreation and extra curricular activities such as arts and crafts. By 1912, at least 141 districts had established vacation schools. Figure 4 depicts historical milestones in the development of year-round education.

Figure 4
Historical Development of YRE
1645 - 1990



Evolution

In 1888, the United States Commissioner of Education endorsed the establishment of what he termed "summer schools." The summer schools were intended to be used to help augment the learning process. It was believed that changes in society brought on by the industrial revolution should be reflected in school curriculum. Courses offered at these summer schools focused on vocational and technical training. The cities that followed the Commissioner's recommendation and adopted a year-round calendar (averaging 259 instructional days) were Buffalo, New York; Cleveland, Ohio; and Detroit, Michigan (Lane, 1932; Glinke, 1970; Patton & Patton, 1976, Shepard & Baker, 1977). Records of the early 1900s show summer school versions of YRE programs in use in several communities, including: Bluffton, Indiana (1904); Newark, New Jersey (1912); Minot, North Dakota (1917); Omaha, Nebraska (1925); Nashville, Tennessee (1926); and Aliquippa, Pennsylvania (1928). There were several reasons why each community decided to adopt a summer school program. The school district in Bluffton, Indiana, wanted to offer a diversified

curriculum and improve student achievement by offering students and parents some choice in subject matter. Officials in Newark, New Jersey, sought to facilitate the learning of English by immigrants and to enable students to accelerate through the program and graduate early. Minot, North Dakota, used summer school programs to meet the needs of those students they classified as "laggards." School districts in Nashville, Tennessee, were motivated to adopt a summer school program to improve the quality of education its schools offered. Lastly, Omaha, Nebraska, sought to offer continuous vocational training programs by implementing a summer school program and Aliquippa, Pennsylvania, used the summer school program to provide needed classroom space in their schools (Glines, 1987a, p. 17).

By the start of WWI, the traditional 180-day school year with six-hour days became standard, often accompanied by remedial summer programs (Shepard and Baker, 1977). According to the National Education Association (1985), the

> schedule of 180 six-hour school days stems from a compromise between the much shorter rural school year and the nearly all-year schooling of cities in the years before 1840. For the 75 years after 1840, cities gradually shortened their school year while rural areas gradually lengthened theirs (p. 7).

The use of traditional school calendars continued and was reinforced by the events of WWII. The American education system embarked on nearly two decades of rapid expansion. High schools, colleges, and vocational trade schools were hit by students returning from military service determined to complete their educations. As a result, voluntary summer schools, usually of eight to ten weeks, focusing on career skills became part of many public high school programs.

Modern Era

The post WWII baby boom caused a surge in the public school population and the successful launch of Sputnik in 1957 brought renewed interest in education and need for educational facilities. Aware that most policy makers viewed year-round education as an intrusion on the instructional program and favored providing space to accommodate students through construction of new facilities rather than increased building use through year-round scheduling, Virginia's Commissioner of Education, James E. Allen, established the post of Consultant on Rescheduling the School Year in 1964 (Hermansen & Gove, 1971). Continuous Learning Year Plans, a name ascribed to the numerous variations of single and multi-track year-round school schedules as we know them today (see Appendix A), were developed by Allen and his colleagues between 1968 and 1972 (Thomas, 1973).

Historians of the YRE movement cite developments in California, Missouri and Illinois as bench marks leading to broad-based support of year-round education programs in subsequent years (Shepard & Baker, 1977). In 1968 Hayward Unified School District in Hayward, California implemented California's first year-round school. Hayward was followed in 1971 by Chula Vista and La Mesa-Spring Valley school districts. Concurrent with the California programs, Francis Howell School District in St. Charles, Missouri, and Valley View School District 96 in Will County, Illinois, both adopted mandatory YRE programs within a year of each other. (Hermansen & Gove, 1971). Francis Howell implemented a 9-3 calendar (four nine-week quarters each separated by three-week vacations) in 1969. Valley View adopted

the same calendar (calling it a 45-15 plan) beginning operations in 1970. In each of these cases, the precipitating factor leading to the installation of a year-round education calendar was the lack of classroom space. It should be noted that the Valley View Board of Education, in choosing to implement a year-round education program, rejected two alternatives: (1) increasing class size from 24 to 36, and (2) placing students on double sessions.

For a while teachers were suspicious of the new rotation plans, however, programs in Hayward, Chula Vista, La Mesa Spring Valley, Francis Howell, St. Charles, and Valley View proved to help eliminate much of this distrust. Once suspicious teachers were impressed with the option that teachers may, under year-round schedules, be employed for three additional months during any one academic year. Parents were satisfied with student progress and were not overly disturbed by the change in school schedules. Many enjoyed the practicality of multi-seasonal vacations that a YRC offered parents (Thomas, 1973). These successes legitimated the modification of school calendars to fit community needs and traditions and focused attention on critical issues that continue to attract interest. These issues include:

(1) planning for the appropriate year-round calendar;

(2) determining the financial, educational and social impacts on the school district, school site and community;

(3) determining the feasibility of implementation;

(4) understanding district priorities;

(5) understanding implementation procedures and processes;

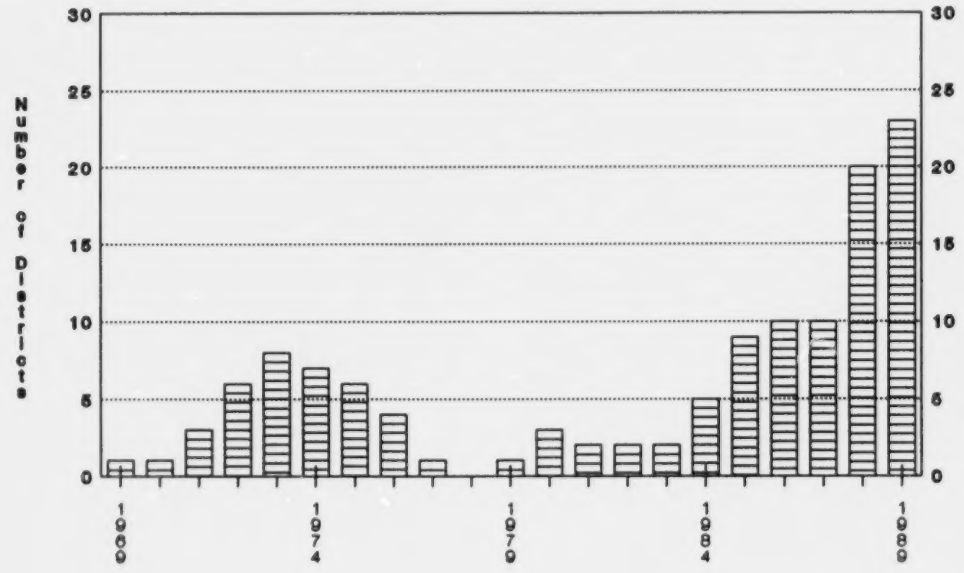
(6) determining the length of the policy change, and;

(7) understanding policy implications of organizational change accompanied by the implementation (Carriedo & Goren, 1989).

Innovative programs like the one conducted at the Mankato State University Wilson Campus School in Minnesota, 1969, extended the YRE movement. This school adopted a voluntary single-track year-round program creating a unique "personalized" year-round calendar for children in grades K-12. Students were divided into five attendance cohorts (tracks). The institution was open 240 days; students attended any 180 of those days they chose. The Mankato YRE program was completely individualized, giving students latitude to come and go as desired, vacationing whenever needed (Schreyer, 1969; Glines 1990).

During the early 1970's YRE began to grow. By 1976 approximately 1.5 million children in the United States had been exposed to at least some form of YRS (Roberts and Bruce, 1976). Among those cities adopting year-round schedules in the early 1970s were Atlanta, Phoenix, Chicago, Dade County (Florida), and Puerto Rico. Figure 5 shows the national growth of YRE programs over the past twenty years, a henomenon represented by rapid growth during two periods--the early '70s and the id and late '80s.

Figure 5
Net Increase in Number of School Districts Initiating YRE



Source: NAYRE

After a period of expansion in the early 1970s and the passage of school facilities legislation such as California's LeRoy Greene Lease Purchase Act of 1976 which provided state funding for new school construction, the late '70s saw a decline in the number of school districts adopting year-round calendars. In fact, during this period of time, some year-round education programs were abandoned. The reasons why some school districts abandoned year-round calendars can be captured in four generalizations.

(1) Year-round operations were initially adopted as a temporary space-saving device, and the districts began to experience a decline in student enrollment.

(2) The superintendent who initially supported the YRE was succeeded by a superintendent who did not believe in the merits of the plan.

(3) A change of school board members who did not support YRE was effected.

(4) Pressure for uniformity in all schools in the district was exerted by community leaders, parents, teachers, board members, or the administration. (Sincoff & Reid, 1975)

Whatever reason(s) given for abandonment of YRE programs, no district cited a decline in student achievement as a reason for dropping the YRC. Today, there is a renewed interest in YRE. The National Association of Year-Round Education 1989-90 *Directory of Programs* reports that 115 districts in 19 states have YRE programs in operations. Year-round calendars are being used in 538 elementary schools, 37 middle or junior high schools and 39 high schools. The total private and public year-round enrollment nationally is reported to be 522,525 (NAYRE, 1989, p.v).

Legislative Mandates

Initial impetus for YRE programs in California came from the State Legislature in 1968 when it funded the Hayward program as a seven-year pilot project. With year-round implementation Hayward housed 25% more students without having to build additional school facilities, enriched their curricular programs and provided child care to its community. Its successes gained state and national recognition (California Legislative Analyst, l970). By 1973 all state statues that had previously interfered with the growth of YRE were either revised or eliminated. New state revenues opened the door for more districts to begin such programs. Initially viewed as the relief to overcrowding, the LeRoy Greene Lease Purchase Act of 1976 provided funding from the state to qualifying school districts for the construction of new facilities and the modernization of old facilities. The program's requirements where so complex, it took from 3 to 5 years for students to occupy the new school. School districts soon realized that since the school construction process was so slow and resources limited, year-round education was needed to solve problems of overcrowding.

Key statutes and referenda affecting year-round operations compared to the number of schools implementing year-round programs are shown in Figure 6. They are:

1. 1968--Proposition 46 currently permits general obligation bonds to be sold for acquisition of property and school construction with a two-thirds vote.

2. l976--LeRoy Green Lease Purchase Act of 1976 provides funding for school construction and modernization.

3. 1978--Proposition 13 passed by the voters of California restricted local bond and tax elections for the acquisition of property and school construction.

4. 1983--SB 813 & 81 provided financial assistance for overcrowded districts--$25 was to be paid for each student attending a year-round school established to reduce overcrowding.

5. 1985--AB 1027 and trailer legislation AB 694 provided incentives for transition costs associated with air conditioning and building modifications that may be necessary to ready a facility for year-round classes.

6. 1986--amendments to SB 81 provided per pupil funds in the amount of $238 for K-8, $320 for 7-8, and $365 for 9-12 students who occupy a school facility in excess of capacity. SB 327 passed in the same year allowed districts to apply for $131 per year-round pupil. This legislation was never implemented.

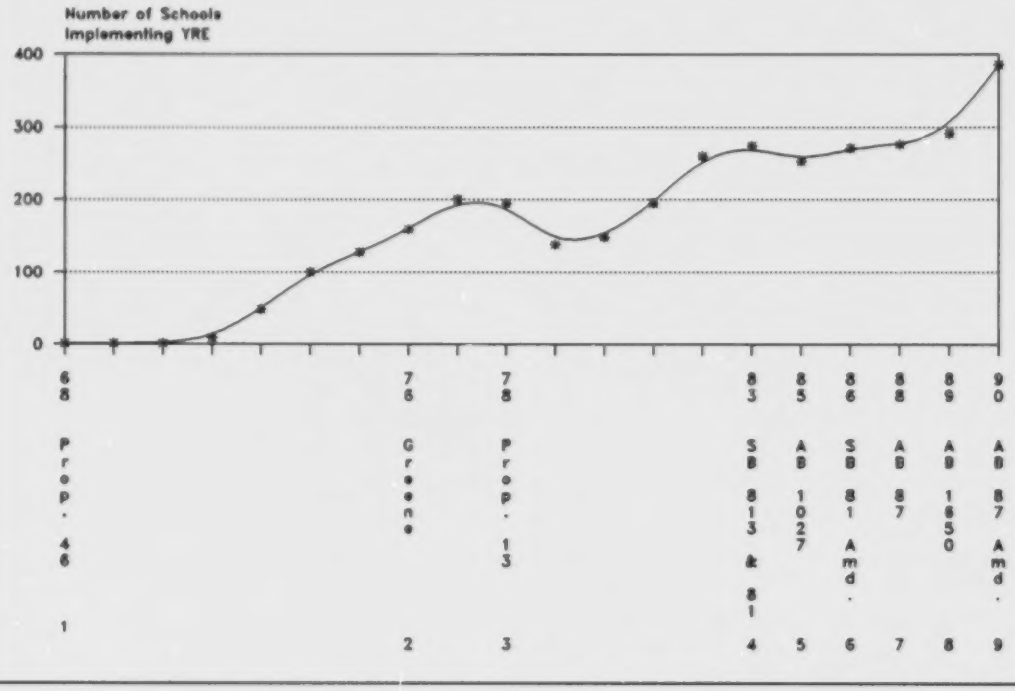
7. 1988--AB 87 provided incentive payments ranging from $125 to $132 per pupil in year-round education facilities with priority point new school construction funding for school districts with 30 % of their K-12 students in year-round programs.

8. 1989--AB 1650 (The Isenberg Legislation) required all school districts in California to implement year-round education by July 1, 1990 for at least 10 percent of its students or 20 percent in the high school attendance area for which the district is applying for new facilities. Priority for approval of new construction projects is granted to districts who comply.

9. 1990--Amendments to AB 87 establishes the Year-round School Grant program to provide financial assistance to both school districts implementing new multi-track year-round education programs and school districts currently operating those programs. These amendments cap the funding at $25 per pupil currently enrolled in a school site and provide designated planning, deferred maintenance and one time capital outlay allotments for schools converting to multi-track year-round.

Unlike legislative mandates of the past, amendments to AB 87 limit incentive revenues to the allowable new building area based on the number of pupils for which a school district qualifies and chooses to claim as year-round. This legislation sets priority construction funds to school districts with substantial enrollment in multi-track year-round schools requesting state funding for 50 % of the cost of a project constructed to operate on a multi-track year-round school calendar.

Figure 6
Legislation Affecting the Growth of YRE
in California



Organizational Feasibility

Besieged with increased student enrollment and a lack of classroom space, policy makers are being forced to consider the fiscal, educational, and social feasibility of implementing a year-round education program in their respective districts. District officials are faced with the need to provide additional classroom space for an increasing student enrollment but, given budget constraints, are unable to incur the cost of new school construction. As a result, year-round education appears to be the only feasible option available to districts experiencing severe overcrowding. Unlike year-round movements in the 1960's, the 1990's is accompanied by constituent accountability. Questions such as, "How much will it cost? Will student achievement be affected? Can my children have the same schedule?" have been addressed to school officials, boards of education, and superintendents who publicized their support of year-round programs. A literature review of over 300 year-round school reports has been reduced to eight major studies. All studies reviewed were problematic for reasons of design, analysis or self-reporting. As can be seen in Table 1, only the feasibility studies conducted by Educational Research Service (ERS) in Prince William County, Virginia at Becky-David School in St. Charles County, Missouri(1974); the Stanford Research Institute (SRI) in Pajaro, California (1979) and those conducted by Oxnard Unified, Oxnard, California(1980) report comprehensive evaluation results concerning the fiscal achievement and social impact of year-round operations.

Table 1
Major YRE Evaluation Studies

Study	Fiscal	Achievement	Social
ERS (1974) -Prince Wm., VA	**Savings:** 4.2% Capital 9.6% Operations **Costs:** $ 216,344 Start Up	increased achievement for year-round students	teachers, parents,positive attitudes toward YRE
-Becky-David, MO	**Savings:** 80% Capital **Costs:** $80,000 (air, books, m & o, supplies)	increase achievement for year-round students	teacher, parents, community attitudes positive toward YRE
SRI (1979) -Pajaro, CA	**Savings:** 4-5%	no significant difference	length of time positive attitude
Guthrie (1984-85) -Houston, TX	**Costs:** 33.8%	increased achievement for year-round students	inconclusive
Bradford (1986) -Buena Vista, VA	**Costs:** increased per pupil on year-round calendar	increased achievement for year-round students	teachers, parents, students positive attitude toward year-round schools
Quinlan (1987) -California Dept. of Education	inconclusive	no significant differences	inconclusive
Brekke (1989) -Oxnard, CA	Savings: 9%	increased achievement in year-round schools	parents, community, teachers, positive atttudes
Mass (1989) -Utah State Board of Educ.	inconclusive	inconclusive	inconclusive

By far the most thorough research on the organizational feasibility of year-round education was completed by a team of researchers at the Stanford Research Institute (SRI) in 1978-79. Funded by the Department of Health, Education, and Welfare, the SRI research team compared five year-round schools with three

traditional year schools in the Pajaro Valley Unified School District. The SRI team reached the following conclusions:

(1) Fiscal--The YRS program reduced the Pajaro Valley Unified School District's annual per-pupil cost of education by 4.1%; more than 90% of this savings resulted from more efficient use of classroom space. When simulated models were used, annual operating costs of five YRSs were less than under traditional calendar schools.

(2) Achievement--There is no difference in the size of achievement gains between students in YRSs and traditional calendar schools.

(3) Social--Parents: Approximately 25% of the parents with children attending year-round schools (YRSs) said they preferred a traditional calendar school and 25 % of parents with students in traditional calendar schools said they preferred a year-round calendar (YRC). Most parents--regardless of which program their children attended--had come to accept the year-round program during its first five years of operation. Most accepted YRS as the preferred solution to overcrowding.

(4) Teachers: Acceptance of YRS increased through exposure. Teachers with more exposure to the year-round program were the most accepting and positive. Teachers with little or no exposure to the year-round idea. YRS teachers' attitudes became increasingly more positive over time. Teachers at YRSs generally had more positive attitudes toward the YRS program than did teachers in traditional calendar schools.

(5) Community: Year-round education has little impact on the business community. Most community members had neither strongly positive or strongly negative attitudes toward the year-round program.(Pelavin, 1979 p. 103)

Year-round education has again surfaced as a critical issue facing educators as they move educational organizations through the 90's. The remainder of this section will focus on a critical analysis of the fiscal, academic achievement,

educational, and socio-political impact of year round education.

Fiscal Impact

Four factors confound YRE cost analysis. First, disagreements about the definition of relevant costs abound. Some schools report "avoided costs" (i.e., projected savings as a result of not spending money on other programs such as construction) to yield a savings, while other districts may or may not include the avoided cost issue in their calculations. Further, when transition costs are included, some amortize them over twenty years while others treat them as one-year lump sum expenditures. Second, districts do not all employ the same accounting system. Regulating legislation is not uniform among states, and incentive monies awarded to various programs, even within a given state, vary among districts. Third, school budgets and expenditures are income driven; schools spend what their sources of revenue allow them to spend. Income can vary greatly between districts; therefore, line item per pupil expenditures reflect more accurately (than generic total expenses) the "truth" regarding cost. Levin (1983) identifies five "inadequacies" of using budgets for accurate cost analysis:

(1) Budgets often do not include cost information on all the ingredients that are used in the intervention, since contributed resources such as volunteers, donated equipment and services, and other "unpaid" inputs are not included in the budget.

(2) When resources have already been paid for or are included in another agency's budget, they will not be discernable.

(3) The standard budget practices may distort the true costs of an ingredient.

(4) The costs of any particular intervention are often embedded in a

budget that covers a much larger unit of operation.

(5) Most budgetary documents represent plans for how resources will be allocated rather than a classification of expenditures after they have taken place. (pp. 50-51)[3]

Rather than using budget items for cost analysis, Levin suggests using the "Ingredients Method" as a more direct and accurate indicator. The Ingredients Method is predicated on the notion that each intervention has an identifiable value and corresponding expense. By identifying these ingredients and finding specific expenditures, the total amount for the intervention can be determined (Levin, 1983).

Cost-Ingredients

The key issue regarding the ingredients method of costing a year-round program lie in the determination of what to include in the formula. Expenditures that impact the year-round program in a different manner from those related to a traditional program must be isolated. Levin (1983) lists five general areas to be studied when analyzing cost:

(1) personnel--all human resources required for each of the alternatives that will be evaluated,

(2) facilities--physical space required for intervention;

(3) equipment and materials--furnishings, instructional equipment, and materials that are used for the intervention;

---

[3]Some distinction should be made regarding "proposed" versus "actual" budgets. Levin refers to proposed budgets; however, if actual budgets reflect those ingredients or line item expenditures that were actually spent, then these latter sources could be used in cost analyses and still maintain cost integrity.

(4) other program inputs--all other ingredients that do not fit readily into the categories set above e.g., extra library or theft insurance, cost of training sessions;

(5) client inputs--any contributions that are required of the clients or their families, as families may have to provide transportation, books, uniforms, equipment, food, or other student services (pp. 54-55).

The research literature on year-round education is replete with descriptions of cost ingredients. The majority delineate them in the following fashion:

(1) calendar selection; hence, the percent of capacity utilized,

(2) degree of curriculum change,

(3) voluntary or mandatory program,

(4) size of the school,

(5) class size,

(6) transportation,

(7) building modifications,

(8) teacher and staff contracts,

(9) facility alterations such as air conditioning and portable storage cabinets,

(10) addition of new facilities.(Chapman, 1972)

While there is general agreement throughout the literature on the cost ingredients of year-round programs, conflicting results are reported. As can be seen in Table 2, only seven of the eight major studies on year-round programs report cost or savings results.

Table 2
Summary of Cost Findings
Year-Round vs Traditional School Calendars

Study	Savings	Costs	Calendar
ERS (1974) -Prince Wm., VA	4.2% Capital 9.6% Operations	$ 216,344 Start Up	45-15
-Becky-David, MO	80% Capital	$80,000 air, textbooks, m & o, supplies	
SRI (1979) -Pajaro, CA	4-5%		45-15
Guthrie (1984-85) -Houston, TX		33.8%	60-20
Bradford (1986) -Buena Vista, VA		increase in per-pupil expenditure on year-round calendar	45-15
Quinlan (1987) -California State Dept.	inconclusive	inconclusive	45-15 60-20 Concept 6
Brekke (1989) -Oxnard, CA	9%		60-20
Mass (1989) -Utah State Board of Educ.	inconclusive	inconclusive	Orchard Plan 45-15

Only two pilot studies reported by the Educational Research Service (1974) and the Stanford Research Institute Study in Pajarro (1979) have comprehensive cost comparisons based on capital, operational, transition cost calculations and incentive revenues. In all but the Stanford Study, capital cost ingredients were not clearly defined. Table 2 provides a summary of findings related to the costs or savings

reported in the seven studies considered to have made major contributions toward the understanding of the financial issues surrounding year-round schools.

ERS (1974), SRI (1979), Bradford (1986), and Brekke (1984, 1986b, 1987), report cost savings ranging from 4 to 9 %. The cost analysis on year-round school programs reported by the California State Department of Education (1987) and the Utah State Board of Education (1989) provide inconclusive data on costs or savings. Although several report operations and start-up or transition costs to be of minor significance, only one of the seven major studies on year-round reports major costs to Houston Independent School District totalling 33.8% (Guthrie, 1985-84). However, it is unclear how capital costs are caluclated into their formula.

YRE cost calculations are complex and divergent, leading to a quagmire of confusion on costs and savings of year-round programs. Answers to the cost/savings dilemma of YRE programs can only be determined through consistent agreement and application of cost ingredients. A thorough understanding of the fiscal impact on a school district must focus on the cost ingredients in each of four major areas: capital outlay, operations, transitions and special revenue incentives. Based on this review, the California Educational Research Cooperative (CERC) has developed and is field testing the following Cost Model (Hough, et al, 1990):

Figure 7
CERC Cost Model

CAPTIAL (costs or savings) + **OPERATIONS** (costs or savings) +

TRANSITIONS (costs or savings) + **Special Revenue Incentives** =

TOTAL (costs or savings)

Achievement Issues

A review of studies comparing student achievement in year-round schools with traditional-year schools present mixed results. The Stanford Research Institute study (Burnett, 1978a, 1978b, 1979; Pelavin, 1978, 1979) provides the most extensive achievement comparison. Students in grades 2, 5, and 7 at the Pajaro Valley Unified School District in California were given the *Comprehensive Test of Basic Skills* (CTBS) in the fall of 1976, the spring of 1977, and again in the fall of 1977. Data were analyzed to ascertain the rate of learning during school attendance and learning loss over the summer months. Multiple regression analyses found **no significant difference in achievement between students on year-round calendars and students attending traditional calendar programs.** In this study, identified "disadvantaged" students' scores did not reflect significant learning loss over the summer for those enrolled in the traditional school calendar. A 1983 review of year-round literature by Merino reports nine studies that used a pre-test/post-test format to compare student achievement in YRSs to matched TSCs. Of the nine achievement studies she analyzed, six **found no significant differences in achievement**

between the two types of schedules. Three of the nine studies reported lost of achievement for year-round students (Merino, 1983, p. 302). What is not clear, however, is whether the school calendar was the significant variable affecting these data. Factors critical to achievement such as curriculum revision, level of teacher competence, and teacher effectiveness among schools are not clearly addressed in these nine studies.

The Los Angeles Unified School District (Alkin, et al., 1982, 1987) and the Oxnard Unified School District (Brekke, 1986, 1989) have conducted studies of student achievement, as well. In the former, Alkin, et al. (1984) report "below district average" scores for students on the YRC. **When matched to TSC students with similar demographic characteristics (including transiency rate, minority, racial/ethnic percentages, and AFDC), however, no significant differences were reported**. The CTBS was used for this analysis of grades five and six over a four-year period from 1981 to 1984.

The 1986 publication from the California State Department of Education, *Year-Round Education: Year-Round Opportunities* (Quinlan, et al.) reports the results of a comprehensive state-wide study using the California Assessment Program (CAP) results from 1982-83 through 1984-85. The study found that:

(1) Year-round schools in California serve a proportionately greater number of lower SES (socio-economic status), AFDC (aid to families with dependent children), and LES/NES students than traditional schools.

(2) Year-round schools performed below the level for them on the basis of their background characteristics.

(3) Single track schools performed at or above the state expectancy and exhibited similar state-wide background characteristics.

(4) Multi-track schools served a proportionately greater number of SES, AFDC, LES/NES students; and, even when statistically controlled, scored below predicted state levels on the CAP. (Quinlan et al., 1987, page 42)

Annual evaluation studies compiled research and evaluation departments of local school districts, e.g., Oxnard Unified School District (Brekke, 1984, 1987), Houston Independent School District (Guthrie, 1985) and Buena Vista City Public Schools (Bradford 1986,1988) report improved achievement. In his report to the school board, Oxnard Superintendent, Norman Brekke reports that third grade YRE student scores on the Comprehensive Test of Basic Skills (CTBS) were higher over a three year period (1979-1981) than were those of their counterparts in the traditional program (Brekke, 1984, pp. 29-30). During the past seven years, Brekke contends that this belief has been confirmed by the California Assessment Program (CAP) and the district's own proficiency testing program for grades 1 through 8 (Brekke, 1989).

Based on a 1974 Virginia mandate that all eleventh graders in that state be given the Science Research Associates (SRA) Achievement test, Bradford (1988) documents improved scores for students attending their four quarter continuous year-round programs between 1974 and 1986 ranging from 12 percentile points in reading to 20 percentile points in "educational ability" at the McCluer High School.

Three possible relationships between year-round schooling and student achievement are found in at least some states. Quinlan (1987) and the Los Angeles studies (1981) indicate that student achievement may be lower in some YRSs. Brekke

(1984, 1987), Guthrie (l985), Bradford (1988), and Poimbeauf (1985) found achievement score increases at some grade levels, however. The SRI study (SRI, l979) and Merino et. al. (1983) report no significant achievement differences when students attending year-round schools are compared to those attending traditional calendar schools. Although conflicting achievement effects are reported, most reviewers conclude that there does not appear to be harmful achievement affects when students attend YRSs. Smith (1983) reiterates that **the quality of instruction, not the quantity of instruction**, probably impacts learning most, and comparisons among and between year-round programs and traditional programs have not thoroughly analyzed this ingredient.

Educational Issues

Aside from achievement effects, research documentation on the educational impact of year-round programs is very sparse. A few studies examine effects on handicapped students, dropouts, absenteeism, and extra curricular activities.

Handicapped Students: Reviews of how YRE programs impact handicapped students have emphasized the importance of extending the number of instructional days beyond the customary 180, rather than concentrating on the adequacy of various YRC plans to deliver services. Several legal cases have developed over the language used in P.L. 94-142 regarding the "least restrictive environment" as well as the number of instructional days the state or school district chooses to offer whenever an individualized education program (IEP) indicates that an extended year program, i.e., more than 180 days, is needed. These are not peculiar to YRE, however. In fact,

year-round schedules have alleviated much of the controversy by offering "intersessions", i.e., instruction for "off-track" or otherwise vacationing students (Alper & Noie, 1987).

Dropouts: White (1988) reports that through the implementation of a year-round education calendar, the Jefferson County (Colorado) School District "virtually eliminated" its dropout problem at the high school level. "Students could make up failures immediately by repeating a class in the ensuing terms or by switching to a more desirable course during a mid-year vacation term" (p. 106). Guthrie (1985) and Quinlan (1987) found lower dropout rates among YRSs when compared to TSCs. Bradford (1988) claims that the dropout rate at Parry McCluer High School in Buena Vista, Virginia, decreased to a level below the state average (p. 10) following implementation of their continuous year-round program. Re-analysis of his data does not support this claim, however. In 1974, the year the four-quarter plan was implemented, Parry McCluer High School did experience a 2.9% dropout rate compared to the state average of 5.2%. In 1985, however, the McCluer High School rate was 5.0%, higher than the 4.4% state-wide average. Statistics reported were not collected and analyzed systematically and failed to support any conclusion regarding the impact of YRE on the dropout rate.

Absenteeism: Absenteeism among students, and even more notably among teachers in YRE programs is reported in several evaluations to be much lower than in schools on the traditional calendar (Quinlan, et al., 1987; White, 1988). Probinsky (1974) found: (1) parents perceived better attitudes among their children in regard

to attendance, and (2) this increased enthusiasm led to an increase in boredom during vacation periods. Brekke (1984) found that "YRE teachers were absent for illness an average of one day (20 percent) less than traditional teachers. During the 1981-82 school year, YRE teachers were absent for illness an average of 0.9 days (16 percent) less. . . . No difference was noted between the two groups during the 1982-83 school year" (pp. 28-29).

Extracurricular Activities: Opponents argue that year-round high schools suffer from lack of continuity for extracurricular activities, fewer course offerings, and a confining curricula. Proponents, such as White (1988), counter unproven assertions with the following:

> One of the most noticeable educational benefits of the year-round school is the opportunity for enrichment, remediation, and acceleration. This is especially beneficial for the high schools. Students are permitted to return to school during one of their vacation terms to attend one class or a full schedule, depending on the availability of space and their individual needs. As many as 30 percent of the students body were documented as returning during vacation terms to take additional classes. (pages 105-106)

White (1985) responds to opponents who fear negative effects on athletic programs by stating that year-round programs find coaches "at school all year", offering athletes more opportunities to train year-round. Ballinger (1988b) offers a solution to Campbell's (1975) complaint that students enrolled in extra curricular activities such as music offered on one attendance track cannot be together to rehearse. According to Ballinger (1988b), these students are allowed to select the attendance schedule that coincides with when the specific extra-curricular activity is offered. All in all, the educational effects of year-round programs are unclear. Data are sparse, and decisions

are colored by emotion.

Social-Political Issues

Year-round education has a substantial impact on the community which it serves. Community attitudes and philosophies are the most frequently studied variables. Available evidence indicates that involvement by school staff, parents, students, businessmen and other community members help shape and control the organizational change processes necessary for year-round education programs to be implemented. Literature on each of these key actor groups is summarized below.

Teachers

Staffing decisions, special curriculum development, fatigue and salary are important factors influencing the support of classroom teachers for year-round education. Malone (1974) found staffing of teachers to be troublesome on some schedules, especially when determining who does and does not teach during the summer months. Berger (1975) cites problems with reduced planning and in-service days on the YRC, and Smith (1983) believes some teachers are not able to take advantage of summer courses at local colleges and universities because of all-year teaching assignments. The Prince William County Schools in Virginia (1979) cited the following teacher concerns as reasons for abandoning their year-round program after seven years:

(1) mental and physical exhaustion

(2) isolation caused by working for 45 days and then off for 15, and

3) difficulty scheduling teachers

Quinlan et. al., (1987) report that 26% of the teachers in California's year-round schools complain about combination classes, less preparation time, detrimental starting time for kindergarten children entering at age four and a half, misperception of the program by parents who use the school as a child care center, "roving" teachers who have to move from one classroom to the next, and the movement and storage of materials and equipment.

The California Legislative Analyst Office (1970) determined that teachers could, by choosing to teach 240 days on the YRC, as opposed to 180 days on the TSC, earn $2,000 to $4,000 more per year (based on 1970 dollars). Oxnard, California, teachers add as much as $ 3,000 a year to their salary by serving as substitutes during their vacation period (Brekke, 1984). Teachers at the Jefferson County, Colorado School District voted 90% against returning to a traditional nine-month calendar (White, undated), and shortly after the implementation of a YRC two decades ago at the Park Elementary School in Hayward, California, teachers voted 61% against returning to the TSC, however, noting the YRC did impose a heavier work load due to a longer school year (California Legislative Analyst, 1970). Cruz (1987) lists six areas that he feels have "greatly enhanced" teacher opportunities in Madera (California) Unified School District since its 1985 implementation of year-round education:

(1) Teachers generally earn higher annual salaries as a result of teaching during their vacation periods or as substitutes, for which they earn a rate that is higher than a regular substitute's pay;

(2) Different grade level teachers are often more readily available for consultation, due to the type of articulation patterns created by the YRC, thus improving staff communication;

(3) Because not all students are on vacation at once during the summer, community facilities can be enjoyed more readily with less congestion;

(4) Although colleges and universities have not yet adapted their programs to fully accommodate year-round teachers' schedules, certain in-service staff development programs have a much greater degree of flexibility;

(5) New teachers can develop strategies and be evaluated periodically, eliminating the traditional August or September bombardment of in-service training;

(6) The use of intercession courses offer novel opportunities for student enrichment or remediation, and teachers can experiment with new curriculum grade levels. (pp. 34-36)

While Utah's teachers indicated that year-round education was good for students, including improved student attitude (76%), students learn more (73%), students return from breaks ready to work (93%), they reported experiencing more stress on year-round calendars (Utah State Board of Education, 1989). California's year-round teachers generally favor YRE. "Teachers... believe that the quality of instruction is better" due to "continuity of instruction," and because "shorter vacations reduce retention loss" (Quinlan et al, 1987, p. 87). These teachers also report less boredom, and "almost 74 percent...said they liked teaching in the year-round program better than in the traditional program" (Quinlan et al., 1987 pp.87-88). The teacher's amount and degree of experience in the Quinlan study with YRE is not clear. The SRI (1979) study reports in spite initial skepticism, the longer teachers are associated with year-round education programs the more accepting of the program they become.

Administrators

Year-round schools directly impact school and district administrative staffs.

Additional administrative tasks brought about by the implementation of year-round education at the school site are reported by SRI (1979) to include: student scheduling changes, employee contract adjustments, changes in attendance accounting purchasing deadlines, transportation routes and cafeteria services, managing and staffing of employees, visiting classrooms, implementing in-service training and staff development, and conveying important information to all staff and parent including those "off track".

In 1972, Valley View Elementary School District of Lockport, Illinois, evaluated its two year-round programs and found expanded workload in the following administrative duties: student scheduling, teacher contract adjustment, arrangement for and transfer of materials and their storage, revamped transportation schedules, and "unexpected pressure... to develop individualized instruction, multi-graded team teaching, and open space or informal education" (ERS, 1974, pp. 24-25). Similar growth in administrative responsibility is reported by Guthrie (1985), Alkin et al. (1982), and Pelavin (1979). Quinlan et al. (1987) report that many administrators find it difficult to schedule their own vacations because the school is seldom closed.

Parents

After questions concerning the availability of inter-session child care services and family vacation schedules are resolved, most parents prefer to retain year-round calendar attendance schedules rather than change to a traditional school calendar (Pelavin, 1978). This is not always the case, however. Although many parents favor the varied vacation schedules over the traditional summer vacation (Ballinger,

Kirschenbaum, and Poimbeauf, 1987), some parents feel the YRC disrupts family life, including vacations (Gottschalk, 1986). An interesting case was reported in Pajaro Valley, California, when the year-round elementary district became the target of an unexpected boycott by a group of Mexican-Americans who felt they were being discriminated against because the YRC did not allow their children to work in the fields during summer (Baker & Johnson, 1973). Other ethnic groups have voiced some displeasure, as well. American Indians in the Los Angeles inner-city complained that the year-round schedule interfered with religious ceremonies frequently held during the summer (Gottschalk, 1986), and some Hispanics complained that their children, again in inner-city areas, were attending year-round while other children in more affluent and/or less crowded areas were not (Gottschalk, 1986).

Another issue voiced by parents concerns the instances when more than one child in the family attends a year-round school and each is placed on a different attendance schedule (Gottschalk, 1986). Hill (1980) found that such scheduling concerns were not a problem if schools either placed children from the same families and neighborhoods on the same track or schedule or offered families the opportunity to choose which calendar track they preferred. When this is done, parent opposition toward YRE is lessened (SRI,1979). Other instances of individual preference are noted by superintendents who report that parents occasionally request that children be placed on separate schedules, allowing parents to spend "quality time" with each child individually (Brekke, 1989). Parental choice appears to be a critical factor influencing support. In the words of Ballinger, Kirschenbaum, & Poimbeauf (1987), "parents

respond favorably to a year-round program if it works for them" (p.30).

Students

Students familiar with both types of school calendars endorse year-round--though their support is less pronounced than that of parents and teachers. Students who have not been exposed to the YRC are only slightly in favor of the program (Alkin et al., 1983; Pelavin, 1978). Secondary students often feel the YRC gives them better job opportunities (Spanbauer, 1976; Quinlan et al., 1987). In some instances students are able to move through the graded system and graduate earlier. Initial worries by the California Legislative Analyst Office (1970) that students in high school would have special problems on year-round calendars coordinating "singleton/doubleton" classes (those offered only once or twice a year) and extracurricular elective courses such as advanced language and science, sports, drama, band, et cetera, have not been reported as significant obstacles to year-round operations (Ballinger, 1987a, 1988b; Bradford, 1988; Glines, 1987a; Richmond, 1977;).

Community

Year-round school schedules receive a mixed reaction from members of the community. A 1977 stratified random sample of 2600 licensed drivers in North Carolina revealed that most people were against a change in the traditional nine-month school schedule (Carpenter, 1977). Other studies support the generalization that most communities do not favor a YRC if asked prior to its implementation, but that once the program has been adopted, the communities do not favor returning to a traditional calendar (Ballinger, 1988b; Bradford, 1988; Brekke, 1984; Servetter, 1973;

Vugrin, 1988; White, 1985). In fact, when enrollments decline, many schools retain their YRC and switch from a multi-track to a single-track format, reducing building use but preserving their formal commitment to YRE as an ideal (Vugrin, 1988; White, 1988).

Some community members believe that keeping children in school and "off the streets" during the summer months contributes to a lower rate of community crime (Richmond, 1977). Several districts report a reduction in school vandalism -- apparently because the school buildings are open longer, keeping janitors on duty throughout the night and on weekends, and buildings are not vacant during the summer (Bradford, 1988; Brekke, 1987; Guthrie, 1985; Los Angeles, 1981; Servetter, 1973; White, 1988).

The use of community parks and playgrounds are also affected by year-round school schedules. Program modifications of these facilities may be needed to accommodate the different calendars and hours of students (Macdonald & Anderson, 1974). Roberts & Bruce (1976) surveyed recreation personnel in seventeen cities with year-round schools and found that most recreation facilities are kept open on a year-round basis to accommodate the school calendars. Brown (1975) found, via questionnaire, that there were no significant differences between the rate of involvement in vacation Bible schools, camps, and other activities between students on YRCs and those on TSCs. Changes in the school calendar require changes in the way a community does business.

Planning for the Implementation of Year-Round

In order to be successful, the implementation of a year-round education program requires a commitment from the total school community. Students, teachers, administrators, parents, district office staff and community agencies are all affected by the change. Policymakers faced with enrollment growth, limited facilities, and financial resources must be convinced that all other alternatives for housing students have been explored (McLain, 1973).

Any person, committee, or agency contemplating year-round education as a possible alternative to existing programs is confronted with two basic considerations: (1) the feasibility of change, and (2) a plan for implementation (McLain, 1973). The most common reason espoused for initiating a study of the feasibility of year-round education is the inadequacy of the existing buildings to accommodate a growing student population. District planners must identify all local, state and federal sources of potential income for the housing of students. State versus local funding incentives is a major policy issue faced by the school district experiencing rapid growth and limited classrooms. For policy makers, the most difficult problem is determining what combination of projects, with short and long term costs, will achieve an efficient use of limited school district resources. A district's ability to fund year-round education depends on its ability to achieve community support for needed resources to implement the program. Funding must be attained through the passage of local bond issues, participation in state school building incentive programs, collection of fees and/or the passage of mandates for local funds.

Optimal school size, alternative uses of school space, use of core facilities, flexible scheduling, intersessions, summer sessions, double sessions, alternative staffing patterns, boundary changes, rental of vacant facilities in the community are major issues to be considered as alternatives to the implementation of year-round operations. Creative, innovative, and flexible alternatives to providing quality instruction in appropriate educational environments should be foremost in the minds of school district officials exploring the feasibility of year-round schooling. Pertinent information on these issues should enable a district to establish standards whereby current and future facility needs and alternatives can be used to address overcrowding (Carriedo and Goren, 1989, p.5).

The basic decision making strategy for implementing change must be based on a systematic approach to problem solving. In its most simplistic form, any systematic approach to problem solving involves six basic steps: (1) identifying unmet needs, (2) identifying the resources that are or may be made available to meet the needs, (3) consider alternative ways the resources may be used to meet the needs, (4) selecting the most appropriate alternative, (5) making a commitment to a specific change, and (6) executing the plan of action. The first four elements of this systematic problem solving have been described as a feasibility plan and the last two elements as a plan for implementation (McLain, 1973; San Diego County Office of Education, 1986; Carriedo and Goren, 1989).

Policymakers must consider a number of critical issues in selecting the most appropriate year-round calendar for their school district. As a temporary solution to

classroom overcrowding, year-round education can be expensive. Facilities must be equipped to handle a twelve month usage schedule. This requires reconsideration of personnel to accommodate to student attendance year-round; adjustments in transportation and utilities appropriations; changes in attendance accounting, achievement testing and master scheduling. These changes are costly and anxiety provoking to staff, parents and community members. Changes in vacation schedules and child care must be addressed when school districts consider the most appropriate year-round calendar to implement (Hermansen & Gove, 1971). If short term growth is expected then the rental of temporary classrooms may be considered an appropriate alternative. However, if a community expects continued and long range demographic growth patterns to be reflected in their community school populations, then the implementation of year-round education may be advisable (Carriedo & Goren, 1989).

Choice of attendance calendar has significant policy implications for a school district. Analysis of the advantages and disadvantages of moving schools toward the implementation of single track versus multi-track year-round schedules should stimulate a series of data gathering and analysis activities facilitating systematic policy decisions prior to district conversion from a traditional school calendar to a year-round calendar. YRE calendars are implemented in single or multi-track forms (See Appendix A, Table 1). Single-track scheduling does not reduce school size nor allow the accommodation of more students. Multi-track year-round calendars divide students and teachers into different groups. Each group of students is assigned a different academic and vacation schedule, accommodating as many as 50% more

students in a given year.

The transition from traditional to multi-track calendars requires a school district to adjust its values and beliefs as well as operating practices in support of year-round education. All services need to be provided on a year-round basis with particular attention to curriculum and programs. Year-round operations requires individuals accustomed to the traditional calendar to make a commitment to change. Everyone is required to change to some extent. Change produces conflict. Conflict produces anxiety. As a result, change to year-round can not be considered without planning to solve conflict and anxiety (Thomas, 1973).

Developing and executing the plan of action requires analysis of data supplied to school leaders in the conduct of their feasibility study. Several key considerations in the areas of operations, program, and evaluation are key elements of plan implementation. Decisions and priorities such as facility design, plant management and maintenance, administration, personnel, child care services, etc. directly impact the financial resources of a school district. The planning and implementation of year-round operations require that school site and central office administration give priority consideration to the following instructional implications:

(1) Student scheduling

(2) Organization of Instructional Programs--Singletons, Doubletons, extracurricular, special programs and activities

(3) Summer school and intersession programs

(4) Communications--day to day operations and off session communications. (National Directory of Year Round Programs 1986; ERS, 1974)

Course and Program integrity are major considerations in conversion from traditional to year-round calendars. Advanced and specialized courses, extracurricular activities (i.e., band, football, etc.) and instructional support services must be maintained and enhanced if YRE is to be accepted by the constituents it is to serve. Some year-round school programs offer activities and instructional programs during vacations called "intersessions"[4]. Activities held during intersessions can include remediation, enrichment, and/or recreation. School districts have used intersession activities as enhancements to and maintenance of course and program integrity.

Year-round implementation needs strong evaluation components. Program objectives and activities need to be clearly stated and communicated to members of the school community. Assessment instruments need to be constructed to provide accurate, meaningful, straightforward information on the progress of year-round implementations to students, teachers, parents, administrators and community members on a regular basis. The continual monitoring and review of year-round operations is critical to the program's survival or demise (McLain, 1973).

---

[4]Intersessions are activities sponsored by the school or community. They are held between periods of time designated as regular instruction in year-round tracks. Some students attend intersession in place of vacation or time off track.

Policy Questions

Policy issues related to the implementation of year-round operations are complex and pose difficult questions for school leaders.

1. What are the fiscal implications of moving to YRE?

The determinants of year-round cost are difficult to narrow down and fluctuate from district to district, as a result, studies produce inconclusive results concerning how much the implementation of YRE costs on an average. Although varying in cost ingredient comparison, most cost models include some combination of capital, operational, and transition costs along with special revenue incentives when available. Throughout the literature, applications of these cost ingredients produce different results. Capital costs (i.e., costs associated with the construction of new school facilities) when calculated as "avoided" costs appear to provide the largest savings to a district over time. Whether or not a district decides to build new schools or operate in excess of capacity (over utilize existing facilities), accounts for most of the cost (or savings) when YRE is compared to alternatives offered by the traditional calendar plan. Operational expenses involve "hidden" costs or savings. For example, costs for employee benefits will not necessarily increase. Textbooks may not have to be purchased for students not in attendance. The one-time expenditures incurred when implementing year-round programs (transition costs) vary depending on district priorities.

2. What are the educational and achievement effects of moving to YRE?

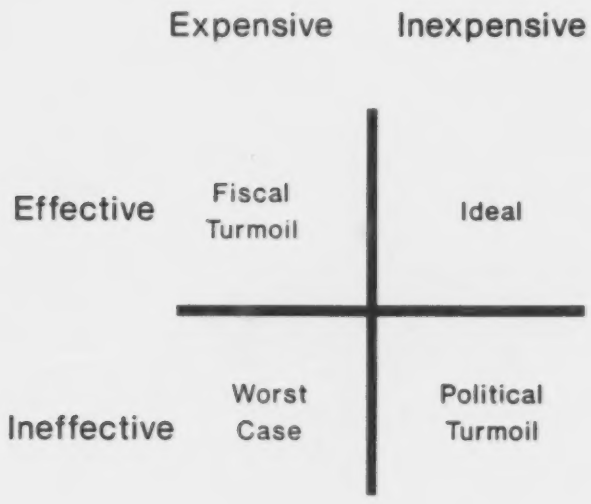
Although studies generally indicate no achievement loss in year-round schools, policy makers need to be aware that research findings are inconclusive. School districts need comprehensive assessment of school and student achievement data prior to developing a YRE implementation plan. Such an assessment will insure racial, ethnic, socio-economic status and special need student balance in YRE schools.

3. What are the community and organizational implications of changing to YRE?

The YRE Feasibility Matrix in Figure 8 displays community and organizational implications of changing to YRE. If YRE costs more, is educationally unsound, and is socially disruptive, YRE is an ineffective solution to school overcrowding. However, if YRE costs less, improves educational opportunities, and raises achievement scores for children, YRE can be considered an effective organizational change with IDEAL results. School district policy makers who implement an expensive but effective year-round education program endanger the fiscal health of their organization and risk FISCAL TURMOIL. However, those district policy makers who fail to plan for YRE and their districts are experiencing rapid growth in school population, risk the repercussions of POLITICAL TURMOIL generated from an unsatisfied unhoused constituency.

Figure 8

YRE Policy Implementation Matrix



If year-round education is to be a feasible solution to classroom overcrowding, school districts will need to develop a YRE mind set regarding the school calendar as well as a new way of doing business. Even though results concerning YRE cost and academic effectiveness are inconclusive, policy makers must consider YRE as a viable option to overcrowding since funding for new school construction is severely limited.

Summary

The concept of year-round education is centuries old. Its meaning and focus vary with the era of its evolution. Year-round education has its origins in early vacation schools and summer schools. As the industrial revolution moved societal

values from a rural agrarian society, educators focused their attention on the need to augment curricula with vocational and technical courses adding increased class offerings and diversity to the curriculum.

The baby boom generation of the 1950s created a need for additional classroom space. The greatest single force propelling consideration of all-year school operations was the desire of many taxpayers to save money by avoiding the cost of building new schools. With its growth in enrollment and limited funding, California has become the leader in the implementation of year-round school operations. Its legislation now mandates school district participation as a prerequisite for funding of new school construction from the state.

The feasibility study was developed as a problem solving strategy for school districts facing burgeoning growth with limited resources. Focused on three major areas capital or facilities costs, operations and transition costs, the feasibility study has been the primary means by which districts have garner information on year-round operations prior to decision making. A review of such studies indicate that they are problematic, incomplete, and methodologically unsound. Year-round school operations effects on a school districts finances, operations and community are reported with much diversity and emotion. Evidence of YRE's financial, educational and social impact on school districts is inconclusive.

Operating schools twelve months instead of ten months a year changes the way school districts conduct business. Organizational change required by year-round implementation must be planned for in a precise systematic manner. The year-round

education research study commissioned by the members of the California Educational Cooperative (CERC) will provide a systematic examination of the feasibility of year-round education for its members. This review serves as the first step in this examination.

Bibliography

Alkin, M. C., Atwood, N., Baker, E., Doby, W. & Doherty, W. (1982). Evaluation of year-round schools concept-six schedule. Los Angeles, CA: Los Angeles Unified School District, Research and Evaluation Branch.

Alkin, M. C., Atwood, N., Baker, E., Doby, W. & Doherty, W. (1983). *Integration evaluation reports: Magnet, permits with transportation, and year-round schools programs, 1982-83.* Los Angeles, CA: Los Angeles Unified School District, Research and Evaluation Branch.

Alkin, M. C. (1987). *Report on LAUSD integration programs* 1986-87. Los Angeles, CA: Los Angeles Unified School District, Research and Evaluation Branch.

Alkin, M. C. & Solomon, L. C. (Eds.). (1983). *The costs of evaluation.* Beverly Hills, CA:Sage.

Alm, R. (1976). An attitudinal survey toward year-round schooling in Sylmar, California. Ph.D. dissertation, University of Southern California.

Alper, S. & Noie, D. R. (1987). Extended school year services for students with severe handicaps: A national survey. *Journal of The Association for Persons with Severe Handicaps, 12,* 61-66.

American Association of School Administrators. (1970). *The year-round school.* Arlington, VA: Author.

American Association of School Administrators. (1973). *Year-round community schools: A framework for administrative leadership.* Arlington, VA: Author.

An analysis of the year-round school program. (1973). Reno, Nevada: Research and Development Department, Washoe County School District.

Arkansas Legislative Council. (1974). *Continued feasibility study of the state of Arkansas implementation year-round school programs.* Little Rock, AR: Legislative Council of the General Assemble, Research Department.

Association of California School Administrators. (1988). *A primer on year-round education.* Sacramento, CA:Author.

The aternal year: Schools that stay open all year. (1987). *The Economist. 24,* 36-38.

Atlanta Public Schools. (1968). *Effective instruction: A report on the four-quarter plan of organization.* Atlanta, GA: Author.

Attitudes toward year-round school in Prince William County, Virginia. (1972). Port Huron, Michigan: Ned S. Hubbell and Associates, Inc.

Atwood, N. (1983). *Integration evaluation reports: Appendix A. Year-round schools sub-studies, 1982-83. Publication No. 436, Part 111.* Los Angeles, CA: Los Angeles Unified School District. (ERIC Document Reproduction Service No.ED 246143)

Baker, J. & V. D. Johnson. (1973). Another district experiments with a 45-15 plan. *School Management, 17*, 21-24.

Baker, K. (1980). *Assessing the benefits of year-round schools: Some policy and cost implications*. Washington, D.C.: U.S. Department of Health, Education, and Welfare.

Baker, K., Pelavin, S. & Burnett, R. (1978). Comment on effects of 'extended school year operations'. *Education, 99*, 221-224.

Banta, T. W. (1977). Even 'volunteers' don't volunteer for summer quinmester. *Tennessee Education, 6*, 6-12.

Ballinger, C. E., Kirschenbaum, N. & Poimbeauf, R. P. (1987). *The year round school: Where learning never stops.* Bloomington, IN: Phi Delta Kappa Educational Foundation, Fastback #259.

Ballinger, C. E. (1987a). *A position statement on year-round education.* San Diego, CA: National Association for Year-Round Education.

Ballinger, C. E. (1987b). Unleashing the school calendar. *Thrust, 16*, 16-18.

Ballinger, C. E. (1988a). Rethinking the school calendar. *Educational Leadership, 45*, 57-62.

Ballinger, C. E. (1988b). Personal Interview, October 19.

Barnes, J. & Schwartz, P. A. (1973). *Research and development report: The fourth quarter in the Atlanta public schools, a report of summer, 1973.* Atlanta, GA.

Barton, L. E., Johnson H. A. & Brulle, A. R. (1986). An evaluation of the effectiveness of an extended year program. *Journal of The Association for Persons with Severe Handicaps. 11*, 136-138.

Bauman, W. S. (1967). Four quarter plan uses school all-year long. *Nations Schools, 80,* 677-70.

Bell, R. R. (1974). *Implementation of year-round education. A simulation notebook.* Paper presented at the National Seminar on Year-Round Education. Chicago: IL.

Berger, E. (1975). Some 45-15 drawbacks: The teachers' view. *Phi Delta Kappan,56,* 420-421.

Bhadra, B. R., Ameerjan, M. S. & Girija, R. (1974). *Studies on students' academic achievement in the trimester system of education.* Bangalore: University of Agricultural Sciences, number 4.

Boxer, K. (1971). *Evaluation report: 1971 summer quinmester program.* Miami, FL: Dade County Public Schools.

Bradford, J.C., Jr. (1988a). *Ten year evaluation of a high school extended school-year plan providing twelve-month schooling with a quarter system.* Anaheim, CA: A Report Prepared for the National Association for Year-Round Education, Annual Meeting: January 31-February 3.

Bradford, J.C., Jr. (1988b). *Ten year follow-up study of the development and implementation of a quarter plan to provide year-round schools in grades 9-12 in the city of Buena Vista.* Buena Vista, VA: Buena Vista Schools.

Brekke, N. R. (1984). Year-round education: Cost saving and educationally effective. *Spectrum, 2,* 25-30.

Brekke, N. R. (1986a). *Year-round education and academic achievement in the Oxnard School District.* Oxnard, CA: Oxnard School District.

Brekke, N. R. (1986b). *A cost analysis of year-round education in the Oxnard School District.* Paper presented at the 17th annual meeting of the National Council on Year-Round Education.

Brekke, N. R. (1987). *Year-round education in the Oxnard School District.* Oxnard, CA: Oxnard School District.

Brekke, N. R. (1989). *Year-round education in the Oxnard School District.* Oxnard, CA: Oxnard School District.

Browder, D. M. & Lentz, F. E. (1985). From litigation to assessment and evaluation. *School Psychology Review, 14,* 188-95.

Brown, J. (1975). Lifestyles of students, staffs, and communities with year-round schools. Ph.D. dissertation, Lehigh University.

Burnett, R. W. (1978, November). *A study of year-round schools.* Vol. 2: Cost Analysis. Menlo Park, CA: Stanford Research Institute.

Burnett, R. W. (1978, November). *A study of year-round schools.* Vol. 3: Handbook for Conducting Cost Analysis of Year-Round School Programs. Menlo Park, CA: Stanford Research Institute.

Burnett, R. W. (1979, March). *A study of year-round schools.* Vol. 4: Handbook for Conducting Feasibility Analysis of Year-Round School Programs.

Burnett, R.W. (1979). *A year-round school cost model.* San Francisco, CA: Paper presented to the American Educational Research Association.

Caffarella, E. P. (1984). How will the baby boomette effect [sic] school enrollments? *School Business Affairs, 50* (1), 14 & 50.

California Association of School Business Officials. (1989). *Budget development for year-round education.* Report Presented to the Sixty-second Annual Conference of the California Association of School Business Officials, Lake Tahoe, California, April 24-27.

California Assemble Office of Research. (1986). *Orchard plan.* Sacramento, CA: Author.

California Coalition for Public Education. (1988). *Too many students: Not enough room.* Los Angeles, CA: Author.

California Department of Finance. (1986). *An assessment of the need for funding to provide facilities for the unhoused school population anticipated between 1986 and 1991,* Report No. D 86-1. Sacramento: CA. Author.

California Legislative Analyst Office. (1970). *Year-round operation of the public schools of California.* Sacramento, CA: Joint Legislative Budget Committee.

California State Department of Education. (1975). *National reference directory of year-round education.* Sacramento, CA: Author.

California State Department of Education. (1975). *Year-round education handbook.* Sacramento, CA: Author.

California State Department of Education. (1976). *Year-round education for the third century of America: A report of the 8th national seminar on year-round education, January 25-28.* Sacramento, CA: Author.

California State Department of Education. (1985). *California state directory of year-round education.* Sacramento, CA: Author.

California State Department of Education. (September, 1988). *California directory of districts with year-round education programs K-12.* Sacramento, CA: Alternative Education Unit.

California State Department of Education. (December, 1988). *California directory of districts with year-round education programs K-12.* Sacramento, CA: Alternative Education Unit.

California State Department of Education. (1989). News release, (Eds. Lange, S. & Rukeyser, B.), September 5, 1989. Sacramento, CA: Office of the Superintendent of Public Instruction.

California State Department of Education. (1990). *Projected 5-Year School Facilities New Construction Needs.* School Facilities Planning Division. Sacramento:CA.

California State Department of Education & National Council on Year-Round Education. (1976). *National reference directory of year-round education.* Sacramento, CA: Author.

Cammarata, G. (1961). Summer program for students and teachers. *Education Digest, 27,* 26-28.

Campbell, A. B. (1975). The year-round school: Implications for the music program. *NASSP Bulletin, 59,* 31-36.

Carpenter, S. (1977). *A survey of the attitudes of parents of North Carolina public schools toward extended school year programs.* Ph.D. dissertation, Duke University.

Carriedo, R. A. & Goren, P. D. (1989). Year-round education through multi-track school. *Policy Briefs,* San Francisco, CA: Far West Laboratory of Educational Research and Development.

Cazden, C. B. (1984). *Effective instructional practices in bilingual education.* Washington, D.C.: E. H. White, Co. (ERIC Document Reproduction Service No. ED 249 768)

Cervantes, A. A. (1984). Ethnocentric pedagogy and minority student growth: Implications for the common school. *Education and Urban Society, 16*(3), 274-293.

Chambers, J. (1981). *Cost and price level adjustments to state aid for education: A theoretical and empirical review.* (IFG Project Report No. 81-A3). Stanford, CA: Stanford University, Institute for Research on Educational Finance and Governance.

Chapman, G. G. (1972). *A study of the probable effects of a proposed year-round school plan on selected factors of school operation in Illinois Township High School District 211.* Ph.D. dissertation, Indiana University.

Cherry Creek School District. (1979). *A community approach to 45-15 year-round schools in the Cherry Creek School District.* Cherry Creek, CO: Author.

Chichura, E. M. (1989). *The role of the board of education in the process of resource allocation for public schools.* Paper presented to the American Educational Research Association, San Francisco, California, March 27-31.

Chula Vista City School District. (1979). *Year-round school: Board policy #6121, revised 20 November 1979*, (unpublished).

Comprehensive Legislative Update on Education (CLUE). (1990). *School Services of California, Inc. Fiscal Report.* December. Author: Sacramento:CA.

Cook, T. D. & Campbell, D. T. (1979). *Quasi-experimentation: Design and analysis issues for field settings.* Chicago, IL: Rand McNally.

Cooper, J. M. (1984). Student enrollments and teacher supply: Implications of the new baby boom. *Education and Urban Society, 16*, 463-475.

Cordova, I. (1970). *Evaluation of the second year (1968-69) of the Sustained primary program for bilingual students in Las Cruces, NM*: (ERIC Documentation Reproduction Service No. ED 052 855)

Craigmile, J. L. & Hymer, R. (1970). *An educational evaluation of the year-round schedule in Becky-David Elementary School.* St. Charles County, MO: Francis Howell School District.

Cruz, J. (1986). An action plan for implementing year-round school. *Thrust, 16*, 21-23.

Cruz, J. (1987). *Implementing year-round school--Monroe style.* (ERIC Document Reproduction No. ED 280 187)

David, J. L. & Pelavin, S. H. (1978). Over what period of time should achievement be measured? *Journal of Educational Measurement, 15*, 91-99.

Deason, D. R. (1975). *A study of teacher attitudes in secondary 45-15 year-round programs.* Unpublished doctoral dissertation, U.S. International University, San Diego, CA.

Deever, R. M. & Gibson, G. J. (1975). Guidelines for the implementation and operation of a year-round school program. *Research Reports on Educational Administration, 6.*

Di Simone, S. (1974). Year-round education: A workable approach. *Pennsylvania School Board Association*, Hamburg, PA.

Doyle, D. P. & Finn, C. E., Jr. (1985). Now is the time for the year-round school. *Principal, 65*, 29-31.

Duncan, R. (1975). Year-round education--for what? *NASSP Bulletin, 59*, 10-16.

Edgar, E., Spence, W. & Kenowitz, L. (1977). Extended school year for the handicapped: Is it working? *Journal of Special Education, 11*, 441-7.

Education Commission of the States. (1970). Explaining the school year. *Compact, 4* (6), 3-48.

Educational Research Service, Inc. (1974). *Evaluations of year-round school programs.* Fullerton, CA: Author.

Ellena, W. J. (1973). 45-15 in a major school district. *Phi Delta Kappan, 56*, 65-66.

Ernst, L. (1971). The year-round school: Fadish or feasible? *Nation's Schools, 88*, 51-56.

Evans, R. A., Reilly, R. E., Dennis, G. F., Kunkel, J. R. & Bailey, J. T. (1978). *A comparative analysis of the 45-15 plan the traditional calendar in the Prince William County Public Schools of Virginia. Executive Summary.* Alexandria, VA: Allen Corp. of America.

Elizondo, F. (1990). Space Sharing: One Solution. *Thrust, 20*, 58-61.

Final project report on year round achievement of Prince William County Schools. (1972). Charlottesville, VA: Bureau of Educational Research, University of Virginia.

Final report: Evaluation of the 45-15 plan, a year-round school operation of Valley View School District 96, Lockport, IL 60441. (1972). Lockport, IL: Valley View School District.

Flexible all year school report. (1972). Artesia, CA: ABC School District.

First annual attitudinal assessment of year-round schools. (1972, 1973). La Mesa, CA: Citizens' Advisory Council, La Mesa-Spring Valley School District.

Fontana Unified School District. (Undated). *Continuous school program handbook.* Fontana, CA: Continuous School Administrative Planning Committee.

Fransson, D. R. (1978). *An analysis of operations costs under traditional and year-round student schedules in the Bethel Public Schools.* Seattle, WA: University Bureau of School Service and Research.

Gandara, P. & Delapp, L. (1986). *The orchard plan: A new way of delivering K-6 education.* Sacramento, CA: Assembly Office of Research.

Glass, G. V. (1984). *The effectiveness of four educational interventions.* (Project Report No. 84-A19). Stanford, CA: Stanford University, Institute for Research on Educational Finance and Governance.

Glass, G. V., McGraw, B. & Smith, M. L. (1981). *Meta-analysis in social research.* Beverly Hills, CA: Sage.

Glines, D. (1970). YRE? Is this the school of the future? *Instructor Magazine.*

Glinke, G. (1970). *The year-round education movement: Its historical implications on today's urbanized culture.* Utica, MI: Utica Community Schools.

Glines, D. (1975). Year-round education. *Thresholds in Education, 1* (4), 7-9.

Glines, D. (1978). The status of year-round education. *Education Digest, 44,* 19-21.

Glines, D. (1987a). Year-round education: A philosophy. *Thrust, 16,* 14-17.

Glines, D. (1987b). Schools that don't close. *California School Board Journal,* (Summer), 35-39.

Glines, D. (1988a). YRE in California: 67 and counting. *Thrust, 18,* 31-34.

Glines, D. (1988b). Telephone interview, December 9, 1988.

Glines, D. (1988c). *A primer on year-round education.* Sacramento, CA: Association of California School Administrators.

Glines, D. (1989). Telephone interview, June 22, 1989.

Glines, D. (1990). Maximizing school capacity. *Thrust, 20,* 49-54.

Goren, P. & Carriedo, R. (1986). *Policy analysis on the implementation of an expanded multi-track year-round school program.* San Diego, CA: San Diego City Schools, Research and Evaluation Division.

Gottschalk, E. C., Jr. (1986). Cities turn to year-round schools as answer to crowded conditions. *Wall Street Journal, CCVII,* 29.

Gramlich, E. (1981). *Benefit-cost analysis of government programs.* Englewood Cliffs, NJ: Prentice Hall.

Gray, H., (Ed.). (1985). *Intermountain leisure symposium proceedings.* (November 7) Logan, UT. (ERIC Document Reproduction Service No. ED 264 220.)

Grieder, C. (1972). Year-round school raises some big questions. *Nation's Schools, 90,* 18.

Guthrie, T. (1985). *Final evaluation report. Year-round school 1984-85.* Houston, TX: Houston Independent School District.

Hamilton, C. A. (1970). *A financial evaluation of Becky-David year-round school.* Saint Charles County, Mo: Francis Howell School District.

Haney, D. (1990). What about my summer vacation? *Thrust, 20,* 55-57.

Hanusher, E. A. (1989). The impact of differential expenditures on school performance. *Educational Researcher, 18,* 45-51.

Hardin, H. (1973). *What is the effect of the year-round school on personal adjustment and social adjustment of elementary children.* Ph.D. dissertation, St. Louis University.

Harlan, M. (1973). *Academic achievement of students enrolled in a 45-15 continuous school plan.* Ph.D. dissertation, Northern Illinois University.

Hartman, W. T. (1981). Estimating the costs of educating handicapped children: A resource-cost model approach, summary report. *Evaluation and Policy Analysis*. 3(4), 33-48.

Hawley. D. E., Fletcher, J. D. & Piele, P. K. (1986). Costs, effects, and utility of microcomputer-assisted instruction. Eugene, OR: University of Oregon, Center for Advanced Technology in Education.

Hecht, J. B. (1989). *Cost effects analysis applied to California's regional occupational centers and programs*. Ph.D. dissertation, University of California, Riverside.

Heller, M. P. & Bailey, M. A. (1976). Year-round school: Problems and opportunities. *Clearing House, 49*, 363-364.

Henson, E. C. (1970). *The four-quarter school year in the Atlanta public schools.* Atlanta, GA: Atlanta Public Schools.

Hermansen, K. L. & Gove, J. R. (1971). *The year-round school.* New York: Linnet Books.

Hill, B. (1980). *The attitude of patrons toward year-round school in the Hillsboro, Oregon, Union High School District.* Ph.D. dissertation, Brigham Young University.

Honig, B. (1986). Commencement time for year-round education. *Los Angeles Times*, June 8, sect. V.

Hough, D., Zykowski, J. & Dick, J. *Cost Analysis of Year-Round Education Programs.* Paper presented at the Annual Meeting of the American Educational Research Association. April, 1990. (ERIC Reproduction Service No. pending.)

Housden, T. & Homes, L. (1981). *Mesa Verde--a year-round high school. A descriptive report of 1980-81.* Houston Independent School District. (1987). *Year-round schools 1986-87 final report.* Houston, TX:

Howe, P. H. (1973). Year-round school makes good business sense, says the boardman-businessman. *American School Board Journal, 160*, 46-48.

Hu, T., Lee, M. L. & Stromsdorfer, E. W. (1971). Economic returns to vocational and comprehensive high school graduate. *Journal of Human Resources,* 25-50.

Hunt, W. (1974). *Characteristics of school districts related to implementation of year-round schools.* Ph.D. dissertation, Virginia Polytechnic Institute and State University.

Illinois State Office of Superintendent of Public Instruction. (1972). *The cost of educational operation: The traditional school year vs. the year-round school.* Springfield, IL: Division of Research and Development. (ERIC Document Reproduction Service No. ED 077 117.)

Jamison, D. T., Klees, S. J. & Wells, S. J. (1978). *The costs of educational media.* Beverly Hills, CA: Sage.

Jensen, G. (1976). Does year-round education make sense? *Compact, 14,* 4-6.

Johnson, S. C. (1972). Year-round schools. *Education Digest, 38,* 33-35.

Jorgenson, D. W. & Fraumeni, B. W. (1989). Investment in education. *Educational Researcher, 18,* 35-44.

Kamp, S. (1980). *The relationship between practice during an extended school year and long-term memory retention with mildly handicapped students.* Ph.D. dissertation, University of Tulsa.

Kilbert, G. H. (1988a). *California education codes affecting year-round education programs: A summary as of June 1988.* Sacramento, CA: State Department of Education.

Kilbert, G. H. (1988b). *Year-round education (YRE) feasibility studies.* Sacramento, CA: State Department of Education.

Kilbert, G. H. (1988c). *Year-round education calendar and enrollment plans.* Sacramento, CA: State Department of Education.

Knapp, J., Smith, S. L. & Wright, J. S. (1978). A cost study of year-round schools in Prince William County. Charlottesville, VA: Taylor Murphy Institute. (ERIC Document Reproduction Service No. ED 170 874.)

Knapp, J., Morris, S. W. & Wright, J. S. (1976). 45-15 costs: A cost study of Loudon County's 45-15 programs. Charlottesville, VA: Tayloe Murphy Insitute. (ERIC Document Reproduction Service No. ED 128 975.)

Kuner-Roth, B. (1985). A comparison of academic achievement in a YRE school district with a traditional school district. Ph.D. Dissertation, Temple University.

Lane, E. N. (1932). The all-year school--its origin and development. *The Nation's Schools, 9,* 49-52.

Larsen, L., Goodman, L. & Glean, R. (1981). Issues in the implementation of extended school year programs for handicapped students. *Exceptional Children, 47*, 246-253.

Leibman, M. (1959). A simple answer to the school problem. *Women's Day,* 33-35, 94-100.

Levin, H. M. (1970). A cost-effectiveness analysis of teacher selection. *Journal of Human Resources, 5*, 24-33.

Levin, H. M. (1975). Cost effectiveness analysis in evaluation research. In M. Guttentag & E. Struening (Eds.), *Handbook of evaluation research, 2*, pp. 89-122). Beverly Hills, CA: Sage.

Levin, H. M. (1983). *Cost-effectiveness: A primer.* Beverly Hills, CA: Sage.

Levin, H. M. (1988). Cost-effectiveness and educational policy. *Education Evaluation and Policy Analysis, 10*, 51-69.

Levin, H. M. (1989). Mapping the economics of education. *Educational Researcher, 18,* 13-16.

Levin, H. M., Glass, G. V. & Meister, G. R. (1984). *Cost-effectiveness of four educational interventions.* IFG Project Report 84-A11, Institute for Research on Educational Finance and Governance, Stanford University, Palo Alto, CA.

Levin, H. M., Glass, G. V. & Meister, G. R. (1987). A cost-effectiveness analysis of computer-assisted instruction. *Evaluation Review, 11*, 50-72.

Levin, H. M., Leitner, D. & Meister, G. R. (1986). *Cost-effectiveness of alternative approaches to computer-assisted instruction* (87-CERAS-1). Stanford, CA: Stanford University, Center for Educational Research.

Levin, H. M. & Meister, G. R. (1985). *Educational technology and computers: Promises, promises, always promises* (Project Report No. 85-A13). Stanford, CA: Stanford University, Institute for Research on Educational Finance and Governance.

Levin, H. M. & Woo, L. (1981). An evaluation of the costs of computer-assisted instruction. *Economics of Education Rev., 1*, 1-26.

Lloyd, R. J. (1973). A year-round school schedule: The financial implications in California. *Dissertation Abstracts International, 34*, 6595A.

Los Angeles rejects plan for keeping schools open year-round: Calls it costly. (1955). *Nation's Schools, 55,* 112, 120.

Los Angeles Unified School District. (1981). *Evaluation of the year-round program.* Los Angeles, CA: Author.

Los Angeles Unified School District. (1985). *Handbook for year-round schools.* Los Angeles, CA: Author.

Los Angeles Unified School District. (1987a). *Phase I study of the concept 6 calendar.* Los Angeles, CA: Author.

Los Angeles Unified School District. (1987b). *Elementary and secondary year round schools supplemental information.* Los Angeles, CA: Author.

Los Angeles Unified School District. (1988). *Phase two study of the concept 6 calendar.* Los Angeles, CA: Author.

MacDonald, R.H. & Anderson, B. (1974). *The effect of the 45-15 pilot program on community services in Virginia Beach, Virginia.* Virginia Beach, VA: Virginia Beach Public Schools. (ERIC Document Reproduction Service No. ED 105 632.)

Makuch, G. J. (1981). Year-round special education and related services: A state director's perspective. *Exceptional Children, 47,* 272-274.

Malone, W. C. (1974). Staffing teachers for the 45-15 concept. *Clearing House, 48,* 537-40.

Malone, W. C. (1975). The 45-15 extended year. *NASSP Bulletin, 59,* 17-21.

Mathews, P., Zykowski, J. and Hough, D. (1989). *Year-round Education Feasibility Guidelines: A Methodological Approach for the Comparison of a Feasibility Study.* California Educational Research Cooperative. University of California, Riverside.

Matty, E. J. (1978). *The 45-15 year-round school: An evaluation of first year algebra achievement of selected ninth grade students.* Ph.D. dissertation, University of Arizona.

McLain, J. & Holterback, C. (1973, 1977). *Year-Round education in the United States. Fifth annual survey of the national council on year-round education.* Clarion, PA: Research Library Center, Clarion State College.

McCloskey, G. (1973). *Year-round community schools: A framework for administrative leadership.* Washington, D.C.: American Association of School Administrators. (ERIC Document Reproduction Service No. ED 079 838.)

McCraley, T. (1975). *An experimental study of the 45-15 year-round school organizational plan and the traditional nine month school organizational plan.* Ph.D. dissertation, Northern Arizona University.

McDaniel, W. (1976) *A study of the attitudes of selected groups of citizens in Onondaga County toward the year-round school concept.* Ph.D. dissertation, Syracuse University.

McLain, J. D. (1973). *Year-round education.* Berkeley, CA: McCutchan.

Merino, B. J. (1983). The impact of year-round schooling. *Urban Education, 18,* 298-316.

Mesibov, L. (1984). An extended school year for handicapped students? *School Law Bulletin, 15,* 1-12.

Michigan Department of Education. (1970). *Feasibility studies for extending the regular school year: A report to the Michigan Legislature.* Lansing, MI.

Miller, A. (1974). *The year-round school program in New Jersey as perceived by child school administrators, board of education presidents, and education association presidents.* Ph.D. dissertation, Temple University.

Mincer, J. (1989). Human capital and the labor market: A review of current research. *Educational Researcher, 18,* 27-34.

Moortgat, L.R. (1976). *Year-round school: Feasibility and effects of the 45-15 plan.* Ph.D. dissertation, Wayne State University.

Murphy, K. & Welch, F. (1989). Wage premiums for college graduates: Recent growth and possible explanations. *Educational Researcher,* 18, 17-26.

Mussatti, D. J. (1981). *Year-round high school programs.* Paper presented at the Annual Meeting of the National Council on Year-round Education, Anaheim, California, April 2-4.

National Association for Year-Round Education. (1987). *Fourteenth annual national reference directory of year-round education programs for July 1, 1986 through June 30, 1987.* San Diego, CA: Author.

National Association for Year-Round Education. (1989). *Fifteenth national reference directory of year-round education programs for the 1988-89 school year.* San Diego, CA: Author.

National Association of Year-Round Education. (1989). *Sixteenth national reference directory of year-round education programs for the 1989-90 school year.* San Diego, CA: Author

National Association of State Directors of Special Education. (1983). *Extended Year Services.* Washington, DC: Author.

National Council on Year-Round Education. (1975). "Year-round schools: Models and issues." *Thresholds in Education,* Dekalb, IL: Northern Illinois University.

National Council on Year-Round Education and The California State Department of Education. (1980). *Seventh annual national reference directory of year-round education for July 1, 1979 through June 30, 1980.* Sacramento, CA: Author.

National Council on Year-Round Education. (1981). *Eighth annual national reference directory of year-round education for July 1, 1980 through June 30, 1981.* San Diego, CA: Author.

National Council on Year-Round Education. (1982). *Ninth annual national reference directory of year-round education for July 1, 1981 through June 30, 1982.* San Diego, CA: Author.

National Council on Year-Round Education. (1983). *Tenth annual national reference directory of year-round education for July 1, 1982 through June 30, 1983.* San Diego, CA: Author.

National Council on Year-Round Education. (1984). *Eleventh annual national reference directory of year-round education for July 1, 1983 through June 30, 1984.* San Diego, CA: Author.

National Council on Year-Round Education. (1985). *Twelfth annual national reference directory of the year-round education programs for July 1, 1984 through June 30, 1985.* San Diego, CA: Author.

National Council on Year-Round Education. (1986). *Thirteenth annual national reference directory of year-round education programs for July 1, 1985 through June 30, 1986.* San Diego, CA: Author.

National Council on Year-Round Education. (1988). *Fifteenth annual national reference directory of year-round education programs for July 1, 1988 through June 30, 1989.* San Diego, CA: Author.

National Council on Year-Round Education. (1989). *Sixteenth annual national reference directory of year-round education programs for July 1, 1988 through June 30, 1989.* San Diego, CA: Author.

National Education Association.(1985). A longer school day and year. *Search,* Washington, D.C.:

National Governors' Association. (1986). *Time for results. (The governors' 1991 report on education).* Washington, D.C.: Center for Policy Research and Analysis.

Nebo School District. (1986). *The grant school plan.* Paper presented at the Annual Meeting of the National Council on Year-Round Education, Anaheim, CA: February 2-5. (ERIC Document Reproduction Service No. ED 274 102.)

New Jersey State Department of Education. (1978). *Year-round education activities in the United States.* Trenton, NJ: Division of Planning. (ERIC Document Reproduction Service No. ED 106 912.)

New York State Department of Education and the University of the State of New York. (1978). *Learning, retention and forgetting.* Technical Report No. 5 for the Board of Regents of the State of New York. Albany, NY:

Nygaard, D. D. (1974). *Evaluations of year-round school programs.* Arlington, VA: Educational Research Service, Inc.

O'Dell, A. M. (1972). *A general report on the Francis Howell year-round school plan.* St. Charles County, MO: Francis Howell School District.

Oxnard Elementary School District. (1986a). *A cost analysis of year-round education in Oxnard School District.* Oxnard, CA: Author.

Oxnard Elementary School District. (1986b). *Year-round education and academic achievement in the Oxnard School District.* Oxnard, CA: Author.

Oxnard Elementary School District. (1989). *Year-round education and academic achievement in the Oxnard School District.* Oxnard, CA: Author.

Oritz, F. I. (1991). *Opening New Schools.* California Educational Research Cooperative. Riverside, CA.

Patton, C.V. & Patton, G. (1976). A year-round open school viewed from within. *Phi Delta Kappan, 57*, 522-526.

Pelavin, S. H. (1978). *A study of year-round schools.* Executive Summary. Menlo Park, CA: Stanford Research Institute.

Pelavin, S. H. (1979, March). *A study of year-round schools.* Vol. 1: Final Report. Menlo Park, CA: Stanford Research Institute.

Poimbeauf, P. (1985). *Test scores for year-round schools.* Houston, TX: Houston Independent School District. (Unpublished).

Prince William Schools drop year-round program. (1975). *Nation's Schools, 5*, 1-2.

Probinsky, J. (1974). *The implication of the 45-15 calendar for changing family life pattern.* Presented at the annual meeting of the American Educational Research Association, Chicago, April 15-19. (ERIC Document Reproduction Service No. ED 088 174.)

Quinlan, C., George, C. & Emmett, T. (1987). *Year-round education: Year-round opportunities.* Sacramento, CA: State Department of Education.

Richards, J. R. (1964). *A comparison of the trimester and four-quarter calendars for year-round operation of public higher education in California.* Sacramento, CA: California State Coordinating Council for Higher Education.

Richmond, M. J., Jr. (1977a). The extended school year: Issues and answers. *Issues in Year-Round Education.* North Quincy, MS: The Christopher Publishing House.

Richmond, M. J., Jr. (1977b). School as a deterrent to juvenile crime. *Education,* 252-256.

Richmond, M. J. (1977c). Effects of extended school year operations. *Education, 97,* 392-398.

Ricketts, A. R. (1976). *An examination of year-round schools in district 11.* Ph.D. dissertation, University of Colorado.

Rifkin, N. S. (1973). How to make the switch to year-round schools. *American School Board Journal, 160*, 40-45.

Roberts, L. & Bruce, J. (1976). Impact of the 12-month school. *Parks & Recreation, 11*, 42-43.

Rossi, P. H., Freeman, H. E. & Wright, S. R. (1979). *Evaluation: A systematic approach.* Beverly Hills, CA: Sage.

Russell, C. (1976). Split shift and year-round schools: Two nontraditional methods of organizing school time. Ph.D. dissertation, University of Arkansas.

San Diego County Office of Education. (1986). *Year-round education resource guidebook.* San Diego, CA:

Sartori, B. M. (1989). Allocation and distribution of resources in high schools: A qualitative case study. Paper presented to the American Educational Research Association, San Francisco, California, March 28.

Schlechty, P. (1974). *Parent attitudes toward the Virginia Beach year-round school pilot program.* Virginia Beach, VA: Public Schools. (ERIC Document Reproduction Service No. ED 105 633.)

Servetter, L. (Ed.). (1973). *Year-round school program: A case study.* Chula Vista, CA: People, Education, and Communication Enterprises.

Shepard, M. A. & Baker, K. (1977). *Year-round schools.* Lexington, MA: Lexington Books.

Sincoff, M. & Reid, T. (1975). Year-round school: In Phoenix it's plodding forward on solid ground but in Virginia Beach, year-round has been tried--and scuttled. *American School Board Journal, 162,* 50-51.

Smith, E. C. (1983). *Longer school years: Reform or illusion?* Washington, D.C.: Learn, Inc., The Education Foundation. (ERIC Document Reproduction Service No. ED 247 661.)

Smith, J. K. (1985). *Cost-outcome analysis: Streamlining techniques (Guide Number 16).* Portland, OR: Northwest Regional Educational Laboratory.

Smith, M. & Glass, G. (1975). *Evaluation of year-round schools: Cherry Creek district 5 educational report.* Boulder: University of Colorado, Bureau of Educational Field Services. (ERIC Document Reproduction Service No. ED 145 537.)

Spanbauer, S. J. (1976). *Implementing a flexible year-round program. Final report.* Appleton, WI: Fox Valley Technical Institute.

Stickler, W. H. (1963). *The year-round calendar in operation.* Atlanta, GA: Southern Regional Education Board.

Stiff, D. (1986). Year-round school: Some constraints to consider. *Thrust, 16,* 12-14.

Stufflebeam, D. L. & Webster W. J. (1980). An analysis of alternative approaches to evaluation. *Educational Evaluation and Policy Analysis, 2,* 5-20.

Thomas, G. I. (1966). *Extended school year designs--an introduction to new plans of school organization which can result in financial economies and provide more education for all pupils.* Albany, NY: New York State Education Department.

Thomas, G. I. (1973). *Administrator's guide to the year-round school.* West Nyack, N.Y.: Parker.

Thomas, S. C. (1971). Valley View's 45-15 year-round school. *Today's Education, 60,* 42-45.

Thompson, M.S. (1980). *Benefit-cost analysis for program evaluation.* Beverly Hills, CA: Sage.

Tittle, C. K., Green, M. & Zibrin, M. (1981). A procedure to link evaluation and funding decisions. *Educational Evaluation and Policy Analysis, 3,* 43-53.

Trombley, W. (1985). State's public schools face space crisis. *Los Angeles Times,* August 19.

Tsang, M. C. (1989). Cost analysis an decision making in education. *Educational Researcher, 18,* 57-58.

Univer, I. O. (1976). Can year-round schools save money? *American School and University, 48,* 34-35.

Utah State Office of Education. (1989). *Statewide Evaluation of Year-Round and Extended-Day Schools.* Salt Lake City, Utah: Utah State Board of Education.

Vanderslice, H. R. (1930). The all-year school in Aliquippa, Pennsylvania. *Elementary School Journal.*

Vanderslice, H. R. (1933). Five year's experience with the all-year-school. *Elementary School Journal, 34,* 256-268.

Varner, S. E. (1968). *The rescheduled school year.* Washington, D.C.: National Education Association, Research Division.

Vouga, R. (1976). Perceptions of selected 45-15 year-round education schools in southern California. *Dissertation Abstracts International, 36,* 5522A.

Vugrin, J. (1988). Personal Interview, October 19.

Waner, A. W. (1975). *The flexible and extended contract as being practiced in year-round schools in California, 1973-74.* Ph.D. dissertation, University of Southern California.

Weinert, R. (1987). Designing school for year-round education. *Thrust, 16,* 18-19.

Weisbrod, B. (1965). Preventing high school dropouts. In R. Dorfman (Ed.), *Measuring benefits of government investments* (pp. 117-148). Washington, DC: The Brookings Institute.

Weisbrod, B. (1968). *Problems in public expenditures analysis.* Washington, D.C.: The Brookings Institute.

White, W. D. (1985). *Initiating and administering a year-round program in your secondary school.* Paper presented at the Annual Meeting of the National Council on Year-Round Education, Los Angeles, CA, January 23-26.

White, W. D. (1987). *Effects of the year-round calendar on school attendance.* San Diego, CA: National Association for Year-Round Education.

White, W. D. (1988). Year-round high schools: Benefits to students, parents, and teachers. *NASSP Bulletin, 72,* 103-106.

White, W. D. *Effects of the year-round calendar on school attendance.* (Undated manuscript).

Wilds, T. F. & Liacopoulos, G. N. (1989). Extended school year services: A consumer perspective on implementation. *Journal of The Association for Persons with Severe Handicaps, 13,* 244-250.

Year-round operation of the public schools of California. (1970). Sacramento, CA: Legislative Analyst Office.

Young, R. J. & Berger, D. E. (1983). The evaluation of a year-round junior high school operation. *NASSP Bulletin, 67,* 53-59.

Appendix A

YRE CALENDARS

APPENDIX A
Table 1
Organizational Impact of Popular YRE Calendars

Calendar Options *

Impact	45/15	60/20	90/30	Cpt. 6	Mod. Cpt. 6	4 Qt. Plan	5 Qt. Plan
Capacity Increase	33%	33%	33%	50%	50%	33%	25%
180 Days	yes	yes	yes	no	no	yes	yes
More than 180 Days	no	no	no	no	no	no	yes
Long Instructional Blocks	no	no	no	no	no	yes	yes
Short Instructional Blocks	yes	yes	no	no	yes	no	no
Course Credit Retained	n/a	n/a	yes	yes	n/a	no	yes
Course Credit Maximized	n/a	n/a	no	no	n/a	yes	yes
# Changes for Roving Teachers	12	3	7	5	11	3	4
Summer Vacations	yes	yes	no	no	yes	no	yes
Traditional Winter Recess	yes	yes	yes	no	no	no	yes
Summer Shut Down	no	no	no	no	no	no	yes

* Calendar Options

* Single Track Attendance Calendars:

o 45/15 Single Track or 45-15 Block--divides the school calendar into four nine week terms. All staff and students attend for 45 days of instruction interspersed with 15 days of vacation. The 15 days students do not attend is called intersession.

o Four-Term or Quarter Plan--divides the school calendar into four 12-week periods of time: fall, winter, spring, summer. Students are required to attend any three of the four 12 week instructional periods.

o Five-Term Plan--utilizes five instructional blocks of 45 days each with five terms or tracks. Students attend four or five instructional blocks totally 180 days. The Quinmester Plan--a derivative of the Five-Term also divides the school into five parts, with students required to attend four of the five blocks. School calendar can range to 220 days of instruction with vacations periods averaging about seven weeks.

* Multi-Track Attendance Calendars:

o 45/15 Multi-Track or 45/15 Staggered Plan--divides students into two to four groups or tracks, depending on enrollment. Each group or track rotates on its own schedule with 45 days of instruction followed by 15 days of vacation throughout the entire year.

o The 60/20 Plan--divides the school calendar into 60 days of instruction and 20 days of vacation through the year. Length of terms vary (59-15 or 60/15 according to holiday and state attendance regulations. Can be either multi or single track.

o The 90/30 Plan--divides the school calendar into two 90 day semesters separated by 30 days of vacation and can be either single or multi-track, depending on enrollment.

o The Concept Six Plan--provides for six terms of approximately 43 days each. Students attend four of the six, but attend each two of their four terms consecutively. This plan is based on 160 or more days of instruction and requires changes in instructional minutes per day.

o Modified Concept Six--modifies the Concept Six Plan by re-alignment of days on-track.